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EDITORIAL: THE HUGO

art: Frank Kelly Freas

Awards of one sort or another are the breath of life to people. A ribbon, a statuette, a medal, a plaque, a scroll—all these things can mean more than money.

The contestants at the Olympic Games in ancient Greece strove for the honor of a wreath of leaves—ideally, the only material gain. The Roman general who was granted a triumph also had his laurel wreath.

Various medieval monarchs established orders of knighthood, and whatever gewgaw symbolized that order was dearer than blood to the candidates.

Napoleon Bonaparte handed out the ribbons of the Legion of Honor freely, knowing that the hope of winning one and the satisfaction of having earned one would keep men fighting and dying for him.

The Nobel Prizes, instituted in 1901, have gained unexampled prestige perhaps because, in addition to the usual medal, they offered a sizable sum of money.

The awards, however, that first caught the public's fancy were the golden statuettes handed out by the U. S. Academy of Motion Picture Arts and Sciences every year—statuettes commonly called "Oscars."

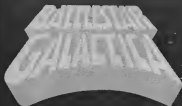
The Oscars, which have been handed out since 1927, were given to people who were familiar to all Americans, for work that was also familiar to all Americans. Eventually, the whole ceremony was placed on television so that it could be watched by all Americans.

After that, all sorts of other associations of specialized groups began handing out similar awards, usually endowed with pet names—Tonys, Grammys, Edgars, and so on.

And should science fiction be any different? Ever since 1939 (except for three of the World War II years), there has been an annual World Science Fiction Convention. Ought not such a con-



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vention seize the opportunity of a large gathering of science fiction pros and fans and use the convention banquet as a setting against which to hand out Achievement Awards?

Sure, this is what should happen, except that for fourteen years it just didn't occur to anyone. And then in 1953, a Philadelphia fan named Hal Lynch was watching the Academy Awards on television and got an idea! It came to fruition. The 11th World Science Fiction Convention was held in Philadelphia in 1953 and the first Achievement Awards for excellence in science fiction were handed out. They were stainless-steel rocket ships on a wooden base and they were called "Hugos" in honor of Hugo Gernsback who, twenty-seven years earlier, had published the first magazine in history to be devoted entirely to science fiction.

There was some vague notion in Philadelphia that the Hugos were to be an annual affair, but there is no continuity of supervision in the annual conventions. The 12th Convention in San Francisco in 1954 was run by an entirely different group of fans and no Hugos were given out.

Then, at the 13th Convention in Cleveland in 1955, the Hugo Awards were reinstated and with such success that they *did* become an annual affair thereafter. Not a year has been missed since.

And in that same year of 1955, my own peculiar involvement with the Hugos began. Consider—

1) At the 1955 Convention, the one in which the Hugos first became an annual feature, I was the Guest of Honor.

2) When the idea arose of issuing anthologies of Hugo Winners in the novella, novelette, and short-story categories, I was chosen by Doubleday as the editor. In 1962, I edited *The Hugo Winners*; in 1971, *The Hugo Winners, Volume Two*; in 1977, *The Hugo Winners, Volume Three*. Undoubtedly, I will continue editing periodic volumes of Hugo winners while they and I both last.

3) I eventually began winning Hugos myself. Unfortunately, the days in which I wrote science fiction almost exclusively were over by the time the Hugos became well-established, so that I rarely had anything available for nomination. Nevertheless I managed to win a Hugo for my science-fact articles in 1963; a retrospective Hugo for my novel series "The Foundation Trilogy" in 1966; a Hugo for my novel *The Gods Themselves* in 1973; and a Hugo for my novelette, "The Bicentennial Man" in 1977.

You wouldn't think that anything would be left that would give me greater pleasure still, would you? Well, let's move on to cur-

rent events.

Over the Labor Day weekend of 1978, the 36th World Science Fiction Convention was held in Phoenix, Arizona. I didn't attend, because I do not fly, but George Scithers was there, of course.

I had nothing in nomination; nothing I had personally written, that is. On the other hand, there is a magazine with my name on it—the one you are now holding in your hand, and it *might* have been in contention, for until 1972, it was common to hand out an award in the category of "Best Professional Magazine."

By then, however, it was realized that magazines were no longer the major source of science fiction. There were editors of original anthologies, editors at paperback houses, editors at hardback houses, all of whom contributed importantly to the science fiction world. The category was therefore shifted to "Best Professional Editor."

And, of course, George was nominated, along with a number of others.

George labored under handicaps. He had been a professional science fiction editor for only a short time and at the time the votes were being counted, only nine issues of *Isaac Asimov's Science Fiction Magazine* had appeared. He was not a major name in professional science fiction prior to his agreeing to work with me. What's more, he labored under the tremendous disadvantage of having to do his chores under the umbrella of my name. Given the name of the magazine, many fans might think of me as the editor, rather than of George.

So I was not very sanguine.

On the morning of Labor Day, September 4, I received a call from Phoenix, from George. He sounded very calm. "I have some bad news for you and some good news," he said.

My heart sank. "Give me the bad news first," I said.

"I spend \$200 on a loser's party," he said.

"Well, then, what possible good news could there be?"

"I didn't have to go," he said.

I didn't dare jump to any fancy conclusions. "Tell me who won, George," I said, urgently.

Still calm, George said, "I did! That's why I didn't have to go." Then, maybe just a little less calm, he said, "I'm overwhelmed."

It was simply a tour de force, considering everything. I called Joel Davis at his Connecticut home at once, and he shared in the jubilation.

There's no money involved; it's just a stainless-steel model of a

spaceship on a wooden base. I doubt that it will raise our circulation, or put money in anyone's pocket, but it's a tribute to what we've done.

And, of course, to George in particular. As far as responsibility for the magazine is concerned, as far as thought and care over ways and means, over its principles and general direction, Joel, George, and I are a triumvirate.

Where day-to-day work is involved, however, it is *George* who does it. He is the editor in the fullest sense of the word. I may be the editorial director and Joel may be the publisher, but it is the *editor* who withstands the heat of the kitchen. It is the *editor* who deserves the credit. And it is the *editor*, George Scithers, who got the Hugo.

Bravo, George, and I'm glad it's I and not you who write the editorials. You couldn't have written this one.

—Oh, and let me make an introduction. While George is doing his work in Philadelphia, we now have an Associate Editor carrying the load in the New York offices. She is a very good-looking (irrelevant, actually, but I couldn't help noticing) red-headed young woman named Shawna McCarthy, whom George hired to help us all go on to still greater glories.

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- Symbiote's Crown* by Scott Baker: Berkeley, 1978, 224pp, \$1.75 (paper).
- Beloved Son* by George Turner: Faber and Faber, 1978, 375pp, £4.95 (hardcover); Pocket Books—forthcoming.
- The Avatar* by Poul Anderson: Berkeley/Putnam, 1978, 384pp, \$10.00 (hardcover).
- Saint Camber* by Katherine Kurtz: Del Rey, 1978, 480pp, \$9.95 (hardcover).
- Confederation Matador* by J.F. Bone: Starblaze, 1978, 211pp, \$4.95 (paper).
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- Speaking of Science Fiction—The Paul Walker Interviews* by Paul Walker: Luna, 1978, 425pp, \$18.75 (hardcover), \$6.95 (paper).
- The Science Fiction and Heroic Fantasy Author Index* compiled by Stuart W. Wells III: Purple Unicorn, 1978, 185pp, \$15.95 (hardcover), \$9.95 (paper).
- The Second Book of Virgil Finlay* edited by Gerry de la Ree: Gerry de la Ree, 1978, 128pp, \$15.00 (hardcover).
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There are two excellent first novels this month. *Sight of Proteus*, by Charles Sheffield, is full of ideas and plot twists. Sheffield, who has been making a name for himself as a short-story writer, has made the jump to novelist quickly and easily. *Sight of Proteus* opens on a future Earth which is both believable and well developed. When it finally moves into space, the background is a bit sketchy, but the adventure aspects are very well handled. The characterization and pacing are a little weak in spots, and there are some awkward scenes, but on the whole, this is an amazingly good first novel. If I had to place Sheffield in some science fiction camp, I'd put him with Niven and Varley—high praise indeed.

Although Scott Baker has published a few short stories, his name is still pretty much unknown in science fiction circles. His first novel, *Symbiote's Crown*, should change that. Baker is a powerful writer with excellent command of both language and characterization. He manages to make a cast of not very heroic characters both human and interesting without resorting to much melodrama. *Symbiote's Crown* is a quiet and thoughtful book which won't win any awards, but will attract many readers.

George Turner can't be called a new writer or even a new science fiction writer, even though *Beloved Son* is his first science fiction novel. Turner, a successful Australian novelist in other fields, has a second career as one of the top science fiction critics. *Beloved Son* takes that hoary old SF plot about a spaceship crew returning to Earth after being away for decades and does some interesting things with it. The future Australian world that Turner brings to life is so different from what one would expect from an American or European author, that it possesses a believable alienness all its own. Turner is strong on both characterization and background. He is also excellent on creating tension. Unfortunately, the last third of this extra-long novel falls down somewhat when he tries to tie all his subplots together into too neat an ending. It's still a book to keep in mind when thinking about awards for next year.

Poul Anderson's new novel, *The Avatar*, is the most ambitious book he has ever attempted in both length and content. Anderson, one of science fiction's top authors, is best known for strong plotting and excellent adventure. In *The Avatar*, he has tried to add a depth of characterization and motivation far beyond his usual level. Some of it is successful, some is not. The sympathetic people and aliens here are certainly more complex and interesting, but

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the villains still come off as caricatures. It's still good Anderson, but not the top book he's capable of writing. Yet, ambitious books that don't quite work are usually more interesting than unambitious books that succeed. Part of the book appeared in this magazine under the title "Joelle."

Saint Camber, by Katherine Kurtz, is a direct sequel to *Camber of Culdi* and the fifth book in her *Chronicles of Deryni* series. It's a medieval fantasy set in a world which has some, but not many, points in common with our own. The plotting is good, the background is interesting, and the writing not only adequate but a vast improvement over that in the earlier books. Kurtz has that virtue, shared by all good fantasy writers, of making her world an interesting place which is larger than the small piece we see in each book. If Kurtz's writing continues to improve, the next book in the series should be exceptional.

Kelly Freas has won more awards as a science fiction artist than anybody else. With his wife Polly, he is now editing and illustrating a new line of high quality, oversize paperbacks called Starblaze Editions. As actual artifacts, these books are excellent. They're printed on good paper with outstanding illustrations and wraparound covers by Freas, and the large, clear type is a pleasure to read. Three of their first four novels are original and none are by totally unknown authors. In this era of two to three dollar paperbacks, five bucks is certainly not out of line for a limited-edition book. The literary quality, unfortunately, is not as high as the production values. *Confederation Matador*, by J.F. Bone, is a routine juvenile adventure story which was originally scheduled to appear as a Laser Book. *Another Fine Myth*, by Robert Asprin, is a pun-filled, imitation de Camp fantasy with some very bad writing. *What Happened to Emily Goode After the Great Exhibition*, by Raylyn Moore, has some charm, but goes on much too long. The only really worthwhile book among the first four is a reprint of Algis Budrys's first novel, *Some Will Not Die* (1961), which first appeared in a badly cut version as *False Night* (1954). It's a fine after-the-catastrophe novel which has been out of print for far too long. Starblaze Books are probably not widely distributed, so you may have to order them direct from The Donning Company, 253 West Bute St., Norfolk VA 23510. If the contents can be improved up to the book quality, this could be an important line to watch.

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tles published by Lancer, Pyramid, and Berkley. They are available from Marty Massoglia, 3100 Bellevue Ave., #311, Los Angeles CA 90026.

During the early seventies, Paul Walker interviewed, via mail, nearly every famous science fiction author. The interviews appeared in various obscure, small-circulation magazines. Luna Publications has collected thirty-one of them, together with drawings and introductory material, in one huge volume, *Speaking of Science Fiction*. There's an incredible amount of bibliographical material buried here, as well as fascinating glimpses about how writers think and work. The only problem with the book is that there's just too much of it. There are sections not germane to SF, dated material, and pieces which are too obscure for general readers and which should have been dropped. If you are willing to dig, there's lots of interesting information here. The book can be ordered directly from Luna Publications, 655 Orchard St., Oradell NJ 07649. Please add \$.50 per order for shipping, \$.75 outside the U.S.A.

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THE SF CONVENTIONAL CALENDAR

by Erwin S. Strauss

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ChattaCon 4, Jan. 5-7, 1979, Chattanooga TN. Foster. Box 21173, C'ga TN 37421. (615) 892-5127
Roc*Kon 3, Feb. 9-11, Little Rock AR. Kelly Freas, Shelby Bush. Box 9911, Little Rock AR 72219
Boskone 16, Feb. 16-18, Boston MA. Frank Herbert. One of the Largest of the East Coast cons, and my personal favorite. Box G, MIT PO, Cambridge MA 02139

QuakeCon, Feb. 16-18, San Francisco CA. R. A. ("Illuminatus") Wilson. A welcome addition to the sparse West Coast schedule. Box 9990 537 Jones, San Fran. CA 94102. (415) 863-1003

CoastCon '79, March 9-11, Biloxi MS. G. R. R. Martin, Meade Frierson III. A con to fit tight budgets—\$12/night rooms (\$15 doubles) Box 0-182, Biloxi MS 39532. (601) 374-2933

NorWesCon II, March 23-25, Seattle WA. Phil Farmer. Box 24207, Seattle WA 98124. (206) 822-9129

OrangeCon '79, March 30-April 1, Orlando FL. Masquerade and banquet. Box 15072B, Orlando FL 32858

LunaCon '79, March 30-April 1, New York NY. Ron Goulart and Gahan Wilson. Back in NYC, at LaGuardia airport. Walter R. Cole, 1171 E. 8th St., Brooklyn NY 11230. (212) 252-9759

SF, Horror & Fantasy Con, April 13-15, Los Angeles CA. Box 69157, Los Angeles 90069

Kubla Khanception, April 27-29, Nashville TN. 647 Devon Dr., Nashville TN 37220. (615) 832-8402

Just ImagiCon, May 25-27, Memphis TN. 4475 Martha Cole, Memphis TN 38118. (901) 365-2132

MidWestCon, June 24-26, Cincinnati OH. 3953 St. Johns Terr., Cinc'ti OH 45236. (513) 791-4670

WesterCon 32, July 4th weekend, San Francisco CA. Richard Lupoff and Bruce Pelz. The major West Coast convention of the year. Masquerade, etc. 195 Alhambra #9, San Fran. CA 94123.

Darkover Grand Council Meeting, July 13-15, New York NY. Marion Zimmer Bradley and Jacqueline Lichtenberg. 2nd annual. Masquerade. Box 355, Brooklyn NY 11219 (516) 781-6795

DeepSouthCon, July 20-22, New Orleans LA. R. A. Lafferty and Jerry Page. This is the major traveling Southern convention. 1903 Oante, New Orleans LA 70118. (504) 861-2602

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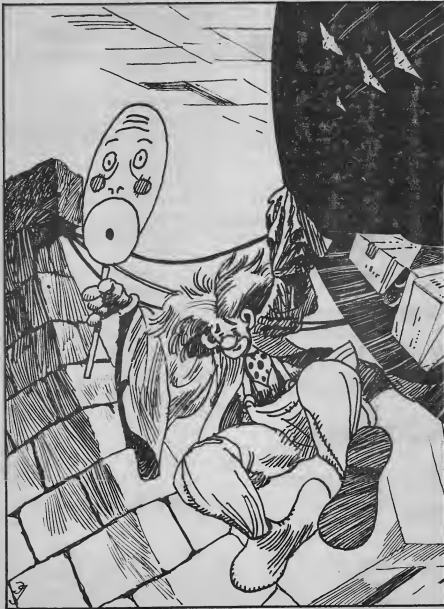
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THE SECOND LAW

by Barry B. Longyear
art Jack Gaughan



The author here continues his chronicle of the planet Momus and the ambassador from Earth, Lord Ashly Allenby. Other stories in this series appeared in the previous issue of this magazine and in the second issue of Asimov's SF Adventure Magazine. Mr. Longyear lives in Maine with his wife, teaches part time, and mostly writes.

As he stepped up the tiers in the spectator's section of the Great Ring, Lord Ashly Allenby paused to listen as a minor poet from Porse rehearsed his argument. The chubby fellow in blue and grey stripes cleared his throat, stood, bowed, and recited:

"We're here to form the Second Law,
I'm not sure why we do,
The horrors of debate, it seems,
Not worth the revenue.
Lord Allenby has called us here,
To beg the Ninth to still his fear,
The evil Tenth will soon be here,
A frightful thing, if true."

As Allenby frowned and took a step toward the poet, he felt Disus, his chief-of-staff, pulling at his arm. He turned and saw the clown shaking his head.

"But, descendants of the circus ship,
City of Baraboo,
I feel I have a question
I must ask of you:
We've lived here free with but one law
A hundred years without a flaw,
We need another? I say 'Pshaw!'
And now, I bid adieu."

As a few listeners applauded, Disus hustled Allenby to their seats. Allenby sat with a thump and shook his head. "Moon, spoon, June; I hope the armies of the Tenth Quadrant will be amused by the fool." He pushed back the black and scarlet striped hood of his magician's robe and leaned back on the cut stone step

of the amphitheater, his elbows resting on the step behind. Disus arranged his own orange robe and adopted a similar posture. When the ambassador from the Ninth Quadrant cooled to a low boil, Disus reached into his purse.

"A movill for your thoughts."

Allenby held out his hand and the clown dropped a copper into it. "They find too much humor in my mission; and, perhaps—" He smiled. "—a little too much seriousness in me."

"You have much to be proud of, Allenby. Look at them." Disus nodded at the tiers filling with magicians, riders, trainers, clowns, newstellers, mimes, jugglers, freaks, acrobats, merchants, and artisans. "Masters every one—look! there is Great Vyson of the Dofstaffl newstellers, and look! Great Kamera!"

Allenby smiled, knowing that Disus, a master clown himself, would be staring in adoration at the Great Kamera, master clown and delegation leader to the Ring from Tarzak. He felt his own heart skip a beat as he recognized Great Fyx, the ancient master magician, in the delegation. Leaning forward, then standing, both Allenby and Disus bowed as the delegation came abreast of the spectators' seats. Kamera nodded at Disus, but Fyx separated from the delegation and motioned for Allenby to come down to him. His heart racing, Allenby stepped over and around the other spectators until he stood before the Great Fyx.

"Allenby, I would have come up, but the years are gaining on my magic. What do you charge for the trip?"

"Nothing, Great Fyx. It is my honor."

Fyx nodded, then smiled a toothless grin. "Come down to the Ring. I wish to talk in private."

Allenby stepped over the low stone wall and stood on the sawdust next to the great magician. "How may I serve you?"

Fyx stood close, cupped a gnarled hand around his mouth and whispered. "Your trick of the seven cards; I wish to buy it."

"I am truly honored."

"How much?"

Allenby shook his head. "Forgive me, Great Fyx, but I seem to have lost my wits. That *you* should buy a trick from *me* . . . I am stunned."

"A good trick is a good trick no matter where its source, Allenby. I saw you perform it on the road to Miira."

Allenby frowned. "Impossible. Forgive me, Great Fyx, but I would have known you. You couldn't have seen it on the road to Miira."

Fyx cackled and stamped one of his spindly legs against the sawdust. "You are a master magician, Allenby, but a new one, nonetheless. Listen." Fyx composed his features, closed his eyes for a second and covered his face with his robe. When he removed the robe, the face of a young woman smiled sensually at Allenby. "I would go with you behind the dunes, Lord Allenby, Ashly—but I must save myself for my betrothed. . . ."

"Dorna!" Allenby flushed, then bellowed in glee as Great Fyx recovered his face, returning with his original mass of wrinkles twisted in mirth. "Excellent, Fyx! Ever since, I have dreamed of that maiden."

"You were persuasive, Allenby, but it is well that I didn't give in to your charm; even I am not that good an illusionist!" The two magicians laughed until tears came to their eyes.

"Yes, Great Fyx, that is my price for the trick of the seven cards: the truth about Dorna. Perhaps now I can dream about other things." Allenby reached within his robe and took out a wallet. Leafing through the papers in it, he pulled one out and handed it to the old magician. Fyx stuffed the slip in his own wallet, removed another and handed it to Allenby.

"Your magic is coming along, Allenby, but as a bargainer you are pitiful. Take it; it is only a minor illusion in exchange for the trick."

Allenby took the slip with trembling hands. "I am very honored. Thank you."

Fyx looked toward the center of the Ring where a man in bright red robes busily instructed a hundred others dressed in white. "The Master of the Ring is instructing the cashiers, and I must join my delegation." Allenby bowed, the old man nodded and hobbled off toward the portion of the steps belonging to the town of Tarzak.

Allenby looked at the slip Fyx had given him. It was Fyx's illusion of the displaced person; a minor illusion to Fyx, but the centerpiece for any lesser magician's repertory. He tucked the slip in his wallet as he climbed the tiers to rejoin Disus. As he took his seat, a flash of the freak's yellow and green caught his eye. "Disus, is that Yehudin?"

Disus turned, shielding his eyes from the sun. "Yes, it is. He hurries; do you suppose the mission has already landed?"

Allenby frowned and they both rose to meet the freak. Yehudin, out of breath, came to a stop before them and held out his hand. Allenby dropped a copper into it. The skin of Yehudin's palm, as

with the rest of his body, was thick, segmented, and nut brown. "What is it?"

"Allenby, Humphries is here. He wants to see you at once."

"What is he doing here?" Allenby turned to Disus and dropped some coppers into the clown's hand. "Watch things and come for me if I'm needed." Allenby and Yehudin climbed down the tiers and walked around the Ring until they came to the spectator's entrance. Turning into the carved rock tunnel, Allenby pressed Yehudin's thorny shoulder. "Did Humphries say what he wanted?"

"I couldn't understand him, Allenby. He seemed very upset." They left the cool tunnel and turned down a dusty street flanked with white-painted single-story shops and homes. "He only appeared disdainful until I showed him his office at the embassy—then he began calling me names!"

"I apologize for him, Yehudin."

"The apology is not yours to give."

Allenby nodded and they walked until they reached a two-story, white adobe building. Above the entrance appeared the words: Embassy, Ninth Quadrant Federation of Habitable Planets. Standing in the entrance, pink, chubby and glowering in the full regalia of a quadrant vice-ambassador, Allenby saw who he assumed to be Bertrum Humphries, his second in command.

"I'm Allenby."

Humphries eyed Allenby from the top of his black and scarlet striped hood to his sandals and dirty feet. Waving his arm back toward the building, Humphries shouted, "Allenby, what is the meaning of this? Do you expect me to conduct myself as a proper representative of the quadrant in a . . . a hovel? And why are you dressed in that preposterous costume?"

"First, Humphries, you shall address me either as Lord Allenby, or Mister Ambassador." Humphries froze, then lowered his arm, his eyes narrowing. "Next, I believe you owe my secretary an apology."

Humphries pointed a finger at Yehudin. "That . . . that is your secretary?"

"That has a name, Humphries! This is Yehudin, the alligator man of the Tarzak Freaks. His family is one of the most distinguished on Momus, *and* he is my secretary, Mister Vice-ambassador!"

The muscles beneath Humphries's right cheek twitched. Turning toward Yehudin, he cocked his head forward slightly. "I apologize

for my remarks, Mister . . ."

"Yehudin." The alligator man smiled, exposing twin rows of teeth filed to sharp points, and held out his hand, palm up. Humphries looked at the outstretched hand, then looked at Allenby.

"Humphries, you *owe* him an apology. Twenty movills should be sufficient." Yehudin nodded.

"Do you seriously expect me to *pay* this . . . this . . ."

"Secretary, and yes I do."

Humphries reached into his breast pocket and withdrew his wallet. Opening it, he pulled out several credit notes. "What's the exchange rate?"

Yehudin folded his arms. "All the cashiers in Tarzak are at the Ring."

Allenby took several credit notes from Humphries's wallet and returned him twenty copper beads. "Here, I'll exchange it for you, Humphries."

Humphries took the beads, a puzzled expression on his face, and handed them to Yehudin. Yehudin pocketed the movills, smiled again, and then walked behind Humphries and opened the curtain covering the embassy door. "Gentlemen?"

In the ambassador's quarters, seated on one of several tan cushions placed around a low table, Allenby watched Humphries grow more uncomfortable by the minute. The man's high-collared blue uniform blouse was obviously choking him. Allenby hadn't the heart to tell Humphries that when he had leaned back against the whitewashed adobe wall, he had covered the back of his midnight-colored uniform with chalk.

"Look, Humphries, I'm terribly sorry we've gotten off on the wrong foot. It's important that our relationship be one of mutual respect and cooperation."

"I suppose I overreacted at the news, Lord Allenby."

"What news is that?"

"What news . . . why, that Momus hasn't yet authorized relations with the quadrant federation!"

"These things take time, Bertrum—may I call you Bertrum?"

"Bert."

"Very well, Bert."

"You've been on the planet for two years, Lord Allenby. I'd think that to be time enough."

Allenby shrugged and held up his hands. "The news first had to spread, then there are town petitions, meetings, the formation of delegations, then there's traveling to Tarzak. The town delega-

tions are gathering now in the Great Ring to form the Second Law. . . ."

"Second Law?" Humphries frowned. "Did you say 'Second Law'?"

Allenby dropped his hands to his lap and nodded. "You see, Bert, Momus only has one law. The First Law was passed over a century ago, and no one really remembers why it was ever formed."

"What is the First Law?"

"It's their law for making laws. It's such a bother they haven't passed another law since. First, the people of each town must petition in their towns for a meeting to select a delegation. . . ."

Humphries held up his hand. "Please." He lowered his hand and shook his head. "Do you mean that there is no established political body with which to deal?"

Allenby smiled. "Now, you've got it."

"Impossible. It goes against every tenet of accepted political theory for a population of this size to live. . . . I mean, what do they do about taxes, crime, or little things such as representing the planet to the Ninth Quadrant Federation?"

Allenby drummed his fingers on the table and studied the ambassador. Sighing, he shook his head. "As to taxes, Bert, everyone pays for what he uses to the degree he uses it."

Humphries snorted. "And there's no crime, I suppose?"

"It's rare, but it happens. If you cheat or steal, you either pay back the victim or are exiled. If you murder, you are exiled."

"Exiled from what?"

"Exiled from the company of good people. Exiles are marked and sent into the desert. No one will give them or sell them talk, rest, food, or comfort."

"Who does all this judging?"

"The people. . . . Bert, have you ever seen a circus?"

Humphries raised his brows as his jaw fell open. "A circus?"

"Yes."

Humphries shrugged. "I suppose, as a child, on television. . . ."

"It's a very closed society, Bert, steeped in custom and tradition. The very nature of these customs and traditions is why Momus has only one law, and probably could get along without that."

"Except for one thing, Lord Allenby: the Tenth Quadrant."

Allenby nodded. "True."

"Which brings us back to the question of what you have been doing for the past two years."

"Bert, I had to steal a lifeboat to get here, and when I landed, I had only the clothes on my back. First, I had to get their attention; then, I had to get their respect."

"Respect? You are an ambassador of the first rank!"

Allenby shrugged. "Politicians and diplomatic types aren't recognized as having legitimate occupations. . . ."

"Legitimate!? And I suppose you get respect by wearing that ridiculous getup?"

"I earned my magician's colors, Bert, and to tell you the truth, they're a lot more comfortable than the strait-jacket you're wearing."

"My God, man, your trousers! Isn't anything worn under those robes?"

"No, Bert, everything works just fine." Allenby snickered while Humphries shook his head.

"Lord Allenby, do you have any conception of how old that joke is?"

"Disus said it was a classic; cost me ten coppers."

"Disus?"

"My chief-of-staff."

"I suppose he's a comedian."

"No. He's a clown."

"And you have the respect of these people?"

"I can prove it." Allenby reached into his robe and took out his wallet. Removing a slip from it, he put the paper on the table in front of Humphries. "Great Fyx, the most honored magician on Momus, gave me this in exchange for my trick of the seven cards. It's his illusion of the displaced person."

Humphries shook his head. "May I be perfectly frank, Lord Allenby?"

"Go ahead." Allenby replaced the slip and returned the wallet to his robe.

"Before I left the Sol System, Bensonhurst, the Quadrant Secretary of State—"

"I know him."

"And, Lord Allenby, it appears that he knows you."

"Clarify."

"The secretary informed me that you were selected as ambassador to Momus because of your rather unorthodox approach to diplomatic tasks." Humphries's arms lifted at his sides, indicating the entire planet. "I have some inkling of why. But this . . ." He lowered his hands to his lap. "This is pitiful."

"That's the second time today that I've been called pitiful. As my superior, Great Fyx can get away with it. As *your* superior, you had best produce an explanation."

"An explanation? The diplomatic mission has been sitting in orbit around Momus for the past ten days, and the military mission will arrive in another three weeks. Here you sit in a bathrobe, headquartered in a mud hut, glorying in a new prank you've—"

"Illusion."

"Illusion, then. In any event, here you are playing magic act with a freak and a clown, while the legality of both diplomatic and military missions has yet to be satisfied!"

"I think that's enough frankness for one day, Humphries."

"There's one more thing you should know."

"What's that?"

"I am to report on you directly to the Secretary."

Allenby nodded. He had expected nothing less. "What do you know about Momus?"

"I was briefed, of course."

"That's not what I asked."

"Very well. One hundred and seventy Earth Annual Units ago, the circus starship *City of Baraboo*, enroute to the first system of its intended circuit of Tenth Quadrant planets, established an orbit around Momus due to engine difficulties. Its orbit, due to the selfsame engine difficulties, was erratic, enabling only the performers and some of the livestock—"

"Animals."

"Forgive me; some of the animals to escape in the lifeboats before the ship and crew burned in the atmosphere."

"And?"

"I'm afraid that's it, except for astrophysical data, Quadrant coordinates, things like that."

"In other words, you know next to nothing about Momus."

"From what I can see, Lord Allenby, it is one step removed from a primitive society. My . . . our primary interest here is to counter Tenth Quadrant territorial ambitions. I'm sure we and General Kahn can accomplish our mission without involving ourselves overly much with concerns about a bunch of fuzzy wuzzys in grease paint."

"Fuzzy wuzzys. . . ." Without changing expression, Allenby adjusted his robe and leaned toward the vice-ambassador. "Humphries, old man."

"Yes?"

"See this black mark between my eyes?"

The vice-ambassador leaned forward and squinted. "Hmmm, yes. What caused it?"

"Keep looking at it. Now, put your palms flat on the table." Humphries lifted his arms slowly and placed his palms on the cool surface of the table. Allenby smiled as Humphries's palms grew hotter and hotter.

"What's going on . . ."

"Now, Humphries, look down. Look down at the table." Humphries looked down, his eyes widening. In a second he was screaming, trying to pull his hands free. Allenby knew that Humphries saw himself whirling down into a bottomless pit of flame and brimstone, the skin searing, then roasting from his bones. He had been there himself, which is why he paid Noman two thousand movills for the illusion. He was almost happy Humphries had shown up; he had never found anyone else he disliked enough to send to Hell. Allenby clapped his hands, and Humphries collapsed on the table.

"My God . . . my . . ."

"Humphries, old man?"

"Allenby, what in God's name . . . ?"

"That is a minor illusion called Visions of Hell. Did you enjoy it?"

" . . . dear God, Allenby!" The vice-ambassador pushed himself up, unclasped his uniform collar and wiped the perspiration from his face.

"Momus is not a colony of fuzzy wuzzys, Bert, old man. Also, it would pay you to keep views like that to yourself. As I said, it's only a minor illusion." Allenby turned to the door. "Yehudin!"

The alligator man entered and stood next to the table. "So you finally tried the hotfoot?"

"Yes. Yehudin, please help Vice-ambassador Humphries to his shuttlecraft." Yehudin pulled Humphries to his feet and pocketed the coppers Allenby put on the table. "Humphries?"

"Yes?"

"You are not to come planetside again without my permission. That applies to all mission personnel. Is that clear?"

"Yes."

Allenby waved his hand and the alligator man took the shaking diplomat out the door. Long after they left, Allenby sat drumming his fingers on the table. He understood Humphries's attitude. Al-

though considered a bit of a rough edge by the Quadrant diplomatic corps, Allenby had served it the better part of his adult life, and he knew and respected its customs and traditions founded upon centuries of diplomatic experience. He smiled as he recalled his own first encounter with an inhabitant of Momus, then frowned remembering Humphries's ominous statement about Bensonhurst. From their first meeting the secretary made it clear that kicking Allenby out of the corps was one of his life's major aims. Reaching into his robe, Allenby withdrew the pocket communicator that had been left for him by the mission's initial landing party. That it was the only radio set on the planet seemed threatening, but how and to what he couldn't identify. He pressed the call button.

"Quadrant Starship *Elite*; communications," the palm-sized box crackled with a magic from another time.

"This is Allenby."

"Yes, Mister Ambassador; how can I help you?"

"I want to speak with the commander of the military mission."

"General Kahn; one moment, please, Mister Ambassador." The box, silent for a few heartbeats, returned to life with a deep, powerful voice. "Lord Allenby, this is General Kahn."

"General, I would like some information."

"Certainly, Lord Allenby."

"General, is the occupation and defense plan for Momus complete?"

"Yes it is."

"I want to see it—down here."

"You understand, Lord Allenby, that it's all on memory chips?"

"Is that a problem?"

"All our portable readers are with the military contingent. All we have on the *Elite* are the ship's computers and a field command unit. The *Elite's* shuttlecraft aren't designed to take a command reader. It's not weight; size is the problem."

"General, I don't care if you have to take a shuttlecraft apart and reassemble it around that reader."

"Yes sir, and when do you want it?"

"How fast can you get it here?"

"That fast?"

"That fast. Allenby out." Allenby returned the set to his robe, stood and went to the open window looking out on the dusty street. Seeing the red and purple stripes of a barker, he called out, "Ho, barker!"

The barker ambled across the street and stood in the sun beneath the window, with his hand out. Allenby dropped a copper into it. "How may I serve you, magician?"

"Can you get me Great Tayla the fortune teller?"

"It will be a price to remember."

"I will pay whatever price she asks, and two hundred coppers for yourself if she is here within the hour." The barker disappeared down the street before the dust from his first step settled to the ground.

That evening on the desert west of Tarzak, Allenby eyed the interior of the cramped shuttlecraft and wondered what magic Kahn had used to fit the enormous holographic reader through the craft's tiny port. The sphere, which depicted Momus under a hypothetical attack by Tenth Quadrant forces, barely cleared the ceiling. Tayla sat before the sphere, her black eyes darting from place to place, absorbing every detail of the imaginary battle. General Kahn, still irked at Tayla's lack of a security clearance, stood between Tayla and the reader's operator.

The fortune teller passed her wrinkled hands between her eyes and the sphere, then pushed back one side of her pale blue hood and looked at the general. "Kahn, make the planet large again."

Kahn nodded at the operator, who punched a button. The sphere filled with the planet, its forests, deserts, oceans and towns springing to life. "Show me the installations, Kahn, and this time explain them to me."

Kahn pointed to a screen on the console beneath the sphere. "Anything you want to know about a base will appear there."

Tayla looked at Allenby. "She is a fortune teller, General; she does not know how to read. Read it to her."

Kahn nodded at the operator, and the sphere went black, save for several tiny specks that remained the color of the terrain, reddish-yellow, green and brown. "Give me the Tarzak base." All but one of the reddish-yellow specks disappeared. The remaining one expanded until it filled Tayla's side of the sphere. The general cleared his throat. "This is the Tarzak base, which will be both the first and the largest. It will serve primarily as the military mission headquarters as well as housing for off-orbit personnel and their families."

Tayla held up her hand. "How many?"

"How many what?"

"Soldiers and others."

Kahn reached in front of Tayla and coded the request into the console. "Total personnel, military and civilian, will be two hundred and twenty thousand."

Tayla nodded. "The next installation, Kahn."

The general and the fortune teller went through the complete series of Quadrant military installations, from the combat training range located in the Great Desert to the wide and narrow defensive satellite systems. Orbital and planetside fighter bases, supply depots, commissary and post exchange facilities, raw materials acquisition operations, even educational, hospital, and recreational facilities for dependents were examined by the old woman. As the series ended, Tayla closed her eyes, her head bowed. "Turn it off, Kahn."

The general nodded at the operator, and the sphere became transparent and lifeless. Allenby went to the fortune teller and pressed her arm. "Great Tayla, are you well?"

She lifted her head, her eyes tired. "I see such things in your crystal ball, Allenby—such things." She shook her head. "It will take me time, and I must consult my own poor ball." She looked back at the reader. "I would give much for such as this, yet," she nodded, "even that is part of the problem." She withdrew a palm-sized glass sphere from her robe and held it, catching the beam of a service light on the reader's console. In seconds, her breathing slowed and she stared at the ball with unblinking eyes.

General Kahn poked the reader operator in the shoulder and motioned toward the cockpit of the shuttlecraft. Quietly, the soldier stood and left the compartment. Kahn left the reader, took Allenby by the elbow and steered him toward the back of the passenger area. "Lord Allenby, to follow your orders I've had to bend, shatter, or throw out half a volume of Quadrant regulations, but this act with the crystal ball is a little much. What will she see in there she didn't see in the reader?"

Allenby shook his head. "She sees nothing in there, Kahn. She uses the ball's light to focus her thoughts. Right now her mind is working at top speed—organizing, associating, and abstracting all she knows, including the information she obtained from the reader. She'll take that information, weigh probabilities, and draw conclusions from them."

Kahn frowned. "But, you call it fortune telling."

"Statistical forecasting by any other name . . ."

"But we have the equipment aboard ship to do sociological projections, and highly trained scientists to interpret and verify the

information. All you'll have here is the word of an old woman."

"No, Kahn. I'll have the word of Great Tayla, the greatest fortune teller on Momus. What's more, she has capabilities your equipment doesn't."

"Such as?"

"Common sense, feelings, and a heart tuned to the interests of Momus and its people."

Tayla's head snapped up and she stood, letting her ball shatter on the deck. "Allenby!"

Rushing to her side, Allenby caught her as she began to swoon. "Tayla, what is it?"

"They will destroy us. Keep them away. The soldiers must not come on the planet."

Later that night, the street outside Allenby's window cool and quiet, Allenby and Kahn sat in the dark, sipping wine. Yehudin had escorted Tayla to her home, returned, and bid them a night's sleep. Allenby, his purse lighter for the day's events, put down his cup and looked across the table at Kahn. In the dark, the general resembled a bear, hunched over the table sipping at his own cup.

"Well, General?"

The dark shape nodded slowly. "What the old woman says is true, Allenby. I've seen it before on Markab VIII."

"What's troubling you, then?"

"I've seen it before, but I never thought about it. It was always just a necessary evil of military occupation." Kahn drained his cup and refilled it. "The troops move in, those paper credits start flying around, the economy gets a sharp increase in wages and sales, and the next thing you know the bases are ringed with whorehouses, drug parlors, and clip joints. After that, it's only a question of time before crime gets to the point where a man on a horse is the only answer." Kahn emptied his cup. "Then the military steps in and sets up a government. Just having the size military mission that is scheduled to occupy Momus will attract trade from the rest of the Quadrant."

"Which means more people, more scum, more crime . . ."

"And more government." Kahn shook his head. "You know, it shouldn't be hitting me this way; like I said, I've seen it before. But that old woman—she was describing the death of an entire people; she was describing her own death."

"What would be worse, Kahn: that, or occupation by the Tenth Quadrant?"

"That is no choice. Depends on whether you like your death slow or fast." Kahn refilled his cup, slopping some wine on the table. "Sorry."

"No matter."

Kahn drank deeply and placed his cup on the table. "Well, it's not our fish to fry, is it?"

"How so?"

"As I'm sure Vice-ambassador Humphries has already pointed out, we all work for the Quadrant. It's not just keeping the Tenth Quadrant off Momus; there's more at stake. The Tenth has put together an armada equal to anything in the Galaxy, and they're prepared to use it. If they can move in without a fight, all well and good. But, they're not afraid of a fight. We've already had a few brushes with them."

"I heard nothing of this."

"Neither our Quadrant nor the Tenth admits to anything; any official mention means certain war. They'd just as soon get as far as they can without spending ships and lives. This Quadrant is what they want to get, and if we stack the interests of Momus against the interests of the entire Quadrant . . ."

"Then we sacrifice the pawn."

"Spoken like a true diplomat." Kahn knocked his cup on the floor with a wave of his hand. "Damn, I'm drunk!"

"What about Tayla's solution?"

"The fortune teller?" Kahn shook his head. "Impossible. The only way we could keep them separate is to put the whole bloody military mission, dependents and all, in orbit. Even then, we'd still have to have the power and materials."

"Power and materials could be provided with a minimum of contact, couldn't they?"

"I suppose. But, here's the thing. The expense to put up and maintain the mission in orbit—the secretary wouldn't stand for it. Prohibitive."

"That's all there is to it? The expense?"

"Technically we can do it."

Allenby laughed. "Well, Kahn, that's it! Momus will pay for its own defense."

"What?"

"If they didn't pay for it, the people here would think the defenses worthless. It will be one grand hagggle, but Momus will pay for your orbiting mission."

"That'll be some kind of first."

"How soon can you cook up an amended plan?"

"Cost is no object?" Allenby laughed, then nodded. Kahn thought a moment. "After I sober up, perhaps three, four hours. Everything is in the computer. All we'll be doing is altering a few factors."

"Noon tomorrow?"

"No. It'll take an hour to get to the ship, more to haul the reader in. What about doing it here, planetside? I can use the shuttlecraft and patch the reader into the ship's computers. I could have it out by noon."

"Good. I'll expect it then."

"Where do I sleep?"

"Just push a few of those floor cushions together and stretch out."

Kahn stumbled around for a few moments, then dropped onto the cushions. In moments he was breathing deeply, and promising to snore. Disus rose from a dark corner and placed some coppers on Allenby's table.

"A trip through another's mind—excellent, Allenby. The illusion of the displaced person is worth ten times the price."

"I'm surprised I got the moves right on my first try. Fyx will never make a living as a scribe."

"As I felt myself approach the aura, it seemed as though he would have noticed had he not consumed so much of your sapwine."

Allenby nodded. "I'll get the proper combination with practice. About what I asked you?"

"Kahn is an honest man, Allenby. He will try his best."

Allenby pushed his cushions together and stretched out. "I must rest, Disus. I want to be at the Ring early tomorrow."

Disus nodded and turned to leave. "Tomorrow you will be needed; Great Kamera will speak, and he opposes the Second Law."

Early the next morning, the sun warming only the upper edge of the amphitheater's west wall, Allenby watched as Boosthit of the Farransetti newstellers and his apprentice told once again the news Allenby had brought to Momus. The apprentice played the part of Allenby, and all having seen the news before, the element of surprise was lost. But, the performance was polished and drew many coppers. As the two newstellers bowed toward Allenby, seated in the spectator's section, the white-robed cashiers adjusted

their money trays and took their stations among the delegates. The Master of the Ring blew his whistle and the chatter of the delegates dropped to a lower volume. A cashier moved from the Tarzak delegation, walked to the center of the ring and handed the Master of the Ring a slip of paper. After blowing his whistle again, the Master of the Ring addressed the tiers.

"Laydeeeez and gentlemen! Great Fyx of the Tarzak Delegation would speak to the Great Ring!"

The cashiers moved among the delegates collecting from those who would hear Fyx and paying off those who would charge to hear the master magician. As they finished, the cashiers gathered at the edge of the Ring and presented their balances to the Master Cashier, who, in turn, presented his balance to Fyx. The old magician accepted his movills, stood and stepped into the Ring. Flinging up his hands, a ball of orange flame appeared high above his head, then turned to black smoke which drifted slowly in the quiet air.

Fyx pointed at the smoke. "A grain of sand is to a mountain as this little puff of smoke is to war." The delegates applauded the magician's opening, and Allenby clapped the loudest. It was an old trick, but it captured the attention. The crowd quiet again, Fyx lowered his hands and looked around at the delegates seated in the tiers.

"We have heard Boosthit of the Farransetti newstellers relate the news Allenby brought to Momus. We have heard of the evil designs of the Tenth Quadrant Federation. They would control this planet with or without our consent. With our consent, we would be slaves; without our consent—" Fyx pointed at the drifting cloud of smoke. "—they would bring terrible weapons against us and take what they want." He lowered his hand. "By protecting us, the Ninth Quadrant would save us from making either choice, but we cannot have this protection unless we give our consent."

The ancient magician motioned toward the Tarzak delegation and an apprentice scurried from the tiers carrying a gnarled staff. Handing the staff to Fyx, the apprentice returned to the tiers. The magician supported himself by holding onto the staff with both hands. He bowed his head for a moment, then continued. "The Second Law must, first, ask the Ninth Quadrant Federation to act in our defense. Second, it must create a means to represent Momus as an entire planet to plan and form the nature of that defense with the officials of the Ninth Quadrant." Lifting his

head, he raised his staff above it. "We must do this. Remember what awaits us if we do not!" At that, Fyx's edge of the ring was filled with dense, white smoke. When it cleared, the old magician was again seated with the Tarzak delegation.

As the crowd applauded, Allenby turned to see Disus climbing the tiers to where he sat. "Have I missed Kamera's performance, Allenby?"

"No. Fyx did well enough, but I don't even see Kamera with his delegation."

Disus sat down and rubbed his hands. "He is the greatest clown on Momus, Allenby. He must have an entrance."

"What about Kahn?"

Disus looked confused for a moment, then nodded. "He says he will have the new plan by the time the sun warms the Ring." He held out his hand and accepted the coppers Allenby dropped into it. Pocketing the movills, Disus turned his attention toward the north entrance to the Ring. A cashier ran from the entrance and handed a slip of paper to the Master of the Ring.

"Laydeeeez and gentlemen! Great Kamera would speak to the Great Ring of Tarzak!"

The cashiers scurried about their business, and the Master Cashier had to take an apprentice to carry Kamera his balance, for many valued his performances. The two were swallowed by the darkness of the north entrance, then returned to the Ring, trying to stifle their snickers as they resumed their places.

Allenby looked around the tiers, stopping on Disus. Every member of the crowd, save himself, was watching the north entrance and preparing to laugh themselves silly. As he turned his own eyes toward the entrance, Allenby shrugged off his feelings of apprehension. They quickly returned as a pitiful "squeegee! squeegee!" sound came from the entrance and triggered a wave of laughter. As the laughing began to slack, a flat paper mask emerged into the light, looked left, then right, then straight ahead so that all but the few behind the entrance could see. Allenby shuddered at both the thunder of laughter caused by the mask, and by the mask itself. With wide, abnormally large blue eyes, pink cheeks and a mouth formed into an O, it was the face of a small boy in wonder, as well as a grotesque representation of Allenby's own face.

To the sound of "squeegee! squeegee!" the figure entered the Ring. The sound, caused by enormous fake feet worn backwards, was soon drowned by the laughs and applause from the crowd.

The master clown, holding the mask before his face, wore a magician's robe on his right side and a newsteller's robe on his left. The loose ends were wrapped and tangled around his body and held in place by a belt from which dangled and clattered a variety of objects. As he reached a spot well into the Ring, Kamera stopped and held up his free arm for quiet, the sleeve flapping loose over his hand. The end of the sleeve immediately began smoking, and Kamera's attempts at trying to stamp out the fire with his outsized backwards feet soon had even Allenby shaking his head and laughing.

The fire apparently out, Kamera again held up his free arm, the sleeve still loose over the end of his hand. He turned his face and mask toward his upraised arm, and the crowd quieted as the sleeve-covered arm began to shake. After a moment, the sleeve slid down Kamera's arm exposing his fist. The arm stopped shaking and the clown seemed to cower as he watched his own fist slowly open. The fingers fully open, Kamera turned and showed the open hand to everyone in the tiers. "Laydeeeez and gentlemen! I give you the Illusion of the Reborn Hand; ta-daaa!"

Allenby frowned and turned to Disus. "He goes too far! I'd like to show him the illusion of the fried clown!" Already laughing, upon hearing Allenby Disus doubled over and fell off the tier. Shaking his head, Allenby turned to look at Kamera who was again holding up his hand for quiet.

"I speak to you, ladies and gentlemen, as Allenby, magician—" Kamera looked at the black left sleeve of his costume. "—no, this is a newsteller's sleeve. Then, I speak to you as Allenby the newsteller..." Switching mask hands, the clown looked at the black and scarlet striped sleeve on his right arm. "Ahhh! I am a magician! How else could I dazzle you with my fine magic?" He paused. "But, if I am not a newsteller, how did I bring you the news of the Ninth Quadrant's offer?" Switching hands again, he looked at his left sleeve. He started at the sight, then reached to his belt and took from it a band. Using the band, he secured the mask to his face, then held both arms in front. He looked first at one sleeve, then at the other. Dropping his arms to his sides, he shook his head.

"Let it pass for the moment; I will remember by and by." He held out his arms. "In any event, I speak to you as Allenby of the town of... the town of... Why, I don't seem to remember that either." Kamera turned toward the Tarzak delegation. "I live in Tarzak, but have I ever been accepted by the town?"

A priest decked in black and white diamond robe stood above the delegates. "No."

Kamera turned his back on the Tarzak delegation and shook his head. He began pacing in a small circle, his feet going "squeegie! squeegie!" He spread his hands palms outward before his chest and walked around the Ring. "Am I from Kuumic?"

A priest in the Kuumic delegation stood and answered, "No."

(Squeegie! squeegie! squeegie!) "Am I from the Town of Miira?" "No."

The clown went from delegation to delegation, shaking his head, scratching it, rubbing his chin, pulling on his nose between delegations. At last, he stopped near the center of the Ring and shrugged. "No matter; it will come to me, by and by." He held up his right hand and pointed it at the crowd. "At least, I speak to you as Allenby! I'm sure of that!" He dropped his hand, then lifted it to scratch his head. "Pretty sure . . ."

Allenby pointed at Kamera and turned to Disus. "Will this never end? He's killing me down there!" Disus, tears streaming down his face, could only nod and gasp for air. Allenby looked at the Tarzak delegation, and sitting in the front tier of laughing delegates, he saw Fyx sitting quietly studying Kamera.

The great clown held up his arms again. "I remember now. I *am* Allenby." As the cheers from the crowd died down, Kamera lowered his hands, clasping them in front. "I am an ambassador, I remember that too. I am from the Ninth Quadrant Federation of Habitable Planets, and I have a plan. My plan is to have you represent Momus to the Ninth Quadrant by electing a clown to do this service . . ."

"NO!" shouted the delegates, most of whom were not clowns.

Kamera scratched his head. "At least, I thought that was the plan . . . perhaps a magician?"

"NO!"

"A freak?"

"NO!"

The clown shook his head. "I see now that wasn't the plan. Perhaps it was a town, instead. A town has all trades; and Tarzak is the largest town. Shall Tarzak represent all the towns? Was that my plan?"

"NO!" shouted the delegates, most of whom were not from Tarzak.

Kamera nodded. "I see now that it wasn't. I'm sure I had one. . . ." The clown stood straight and assumed a Eureka pose,

finger held in the air. "I remember now! This Great Ring represents all the towns and all the trades of Momus. My plan is to keep all of you here for the rest of your lives, here in the Great Ring, to represent Momus to the Ninth Quadrant! That was my plan, wasn't it?"

"NO!"

Kamera's shoulders slumped and he shook his head. "I see now that it wasn't." Straightening slightly, he shrugged and began walking toward the north entrance (squeegee! squeegee!) "It seemed so clear to me for a moment . . . perhaps I had another planet in mind." (squeegee! squeegee!) He stopped at the entrance, removed his mask and bowed. Allenby swore he could feel the stones of the Great Ring shake with the applause.

As the applause died down, Allenby turned to Disus. The clown was drying his tears with the sleeve of his orange robe. "Well, Disus?"

Disus looked at Allenby, then burst out in laughter. Others looked in their direction, and soon the entire spectator's section was rocking with everything from titters to guffaws. "Forgive me, Allenby . . ." The clown placed several coppers in the ambassador's hand. "What was your question?"

"The applause; was it for the performance, or for the position?"

Disus nodded, snickered, then nodded again. "For both. He does not oppose the Ninth Quadrant defending Momus, and for that we are fortunate indeed. But, as the ambassador from the Ninth, Allenby, who will you deal with? This is the question you must answer."

Allenby turned his head to the front, glowered a freak in the spectator's section into silence, then shook his head. "This is not my question to answer, Disus."

"True. Momus must choose its own way." Disus nodded toward the ring. "But, I think your question is coming up."

A cashier ran from the Tarzak delegation and handed the Master of the Ring another slip. Allenby looked at the delegation and saw a figure dressed in the fortune teller's blue preparing to stand. "Tayla!"

Disus squinted. "Yes, it is. I didn't know she was a delegate."

Allenby smacked his left hand with his right fist. "She wasn't. She must have joined it this morning."

"Laydeeeez and gentlemen!" The crowd quieted. "Great Tayla of the Tarzak delegation would speak to the Great Ring." The cashiers scurried among the delegates and the Master Cashier

went to Tayla. Allenby could see her reach into her robe and hand a purse to the Master Cashier.

"Tayla is respected; why must she pay a balance?"

Disus smiled knowingly. "Kamera is a tough act to follow." Allenby nodded as Tayla stood and spread her arms.

"I, Tayla, speak as one who has seen what can be." The old woman's voice was faint, and the crowd became as silent as stone to hear her. "I have seen much in the great crystal ball from the Ninth Federation starship—much. I have seen a great army descend on Momus to destroy us. It turns our movills to paper and our acts to shame. It tempts our children with glitter, turning them from the ways of their fathers and mothers and sending them away from Momus...to fester in the sinkholes of a thousand worlds. This army approaches us now from the Ninth Quadrant Federation...."

The crowd exploded in chatter while the Master of the Ring blew his whistle for quiet. The noise tapered to a buzz, then ceased. Allenby motioned for a cashier. A spectator at the edge of the Ring hissed at a cashier and pointed at Allenby. As Tayla continued, the cashier climbed the tiers and bent down next to him. "The speaker's balance is twelve hundred movills," the cashier whispered.

Allenby pulled two heavy purses from his robe and dropped them into the cashier's tray. "I have no question; I would speak. I am Allenby, the magician."

"Your town?" The cashier looked up from his notepad.

"I have no town."

The cashier frowned, then raised his eyebrows in recognition. Stumbling down the tiers, he ran across the sawdust and gave his paper to the Master of the Ring. The Master read it and waited for Tayla to conclude her remarks. Allenby noticed a barker pointing his way from the spectator's entrance, then saw Humphries next to the barker.

Tayla concluded her remarks and resumed her seat, as Humphries began climbing the tiers.

"Laydeez and gentlemen, Allenby the magician would speak to the Great Ring." As the cashiers sped about their business, Humphries arrived, puffing from the climb.

"Allenby, what are you doing?"

"I'm trying to save the Second Law, but I thought I gave orders that you were to stay on the ship."

Humphries sat down next to Disus. "I am here under the direct

orders of the Secretary. . . ."

Allenby motioned for Humphries to be quiet as the Master Cashier climbed the tiers and presented Allenby with four bags of movills. Allenby handed the bags to Disus, stood and spread his arms. "I, Allenby, speak as the Ambassador to Momus from the Ninth Quadrant Federation of Habitable Planets." The crowd buzzed, then fell silent.

"Great Tayla speaks the truth." The silence became heavier. "The truth she speaks is if the Quadrant military mission is based planetside, which was our plan. But, the plan has changed." Allenby noticed the sunlight edging into the Ring. "At this moment General Kahn of the Quadrant military mission is completing a new plan that will keep the mission in orbit and off planet—away from the people of Momus . . ."

Allenby felt his sleeve being tugged and turned to see Humphries pulling at it. "Stop, Allenby! You can't say that; I have orders from the Secretary—"

"Have I been removed as ambassador?"

"No, but—"

"Then, be quiet. My orders still bear the authority here."

"But, the Secretary—"

"Silence!" Allenby turned to the assembly, took a deep breath, and continued. "For five hundred movills, I would have Tayla tell you what she saw if the forces were thus separated from the people, and what she saw if Momus had no defense against the Tenth Federation." Allenby sat down and Disus paid off the cashier, while Tayla rose and accepted and the remaining cashiers paid and collected for Tayla's response. While they worked at their tasks, Allenby turned to Humphries. "Now, explain yourself."

"Under orders of the Secretary, I have sent Kahn back to the ship. I am down here to get things moving—"

"Let me see those orders." Humphries reached into his blouse and handed Allenby a folded sheet of paper. Opening it, Allenby read, his eyes widening in horror. "You did all this?"

"Yes . . ."

"You seized the embassy and posted armed guards?"

"My orders—" Before Humphries could finish, Allenby raced up the remaining tiers to the top of the wall. Looking south toward the embassy, he could see a thin wisp of smoke and the beam of an energy pistol cutting through the noon haze. In seconds, Humphries stood next to him. "What is it?"

"You fool!" Allenby felt tears burning his eyes. "You damned bloody fool!"

At the embassy, seated at his table, Allenby stared at Humphries, hoping that anger could drive the scene of carnage he had witnessed from his mind. Two shops across the street were still in flames while four Quadrant soldiers and seventeen citizens of Tarzak lay dead in the dust, among them Yehudin the alligator man. Humphries sat, elbows on the low table, clenching his fists and staring at the young newsteller seated across from him. The newsteller had his head bowed in meditation while Disus worked to bind the young man's wounded arm.

"I've had enough of this!" Humphries pointed at the newsteller. "Speak up! What happened?"

Allenby grabbed Humphries's collar and held him. "Shut up, you ass! Haven't you done enough?"

Humphries pulled away, rubbing this throat. "That is unpardonable, Allenby. The Secretary shall hear . . ."

"I said shut up, Humphries." Nodding toward the newsteller, "Be quiet. He must prepare his material."

Disus completed his dressing. "That's all I can do, Allenby. It should hold."

"Thank you." Allenby put some coppers in Disus's hand. "See about Yehudin." Disus nodded and left the room. The room was quiet for a moment, then the newsteller lifted his head and pushed back his black hood. His face was bruised, dusty and sweat streaked.

"Allenby," he said, "you earned your black robe with Boosthit on the road to Tarzak from Kuumic. You know why I should take my news on the road."

Allenby nodded. "I understand, Zath, and I swear it shall not be repeated. Tell us what you saw, and you have our silence and a thousand movills."

"It will play the Great Square."

"I know."

The newsteller shrugged. "Very well." He closed his eyes for a moment, then opened them, his palms facing the two diplomats, "This news is of the glorious battle of Embassy Street between soldiers of the Ninth Quadrant Federation and the travelers and residents of the street."

Allenby nodded. "A good opening, Zath. Continue."

"Gorgo the strongman of the Tarzak Freaks stood across the

street from the embassy passing the time with Yehudin the Alligator Man, when Ellena the magician's assistant passed by and bid them good day."

Allenby held up his hand. "I would use more dialog, Zath—" Humphries slapped his hand on the table.

"Will you quit interrupting?"

"How else will he know where to improve his act?"

Humphries frowned and shook his head. Zath continued, "A soldier standing in front of the embassy door whistled at Ellena and made a rude remark. Gorgo went to the soldier and asked him to apologize. The soldier laughed. Then Gorgo lifted the soldier off the ground by his neck and asked him again.

"Another soldier coming through the embassy entrance saw this, drew his weapon and fired at Gorgo, killing him. And then . . ." A fire lit behind Zath's eyes. ". . . and then, Yehudin issued the ancient battle cry. He called 'Hey Rube!', the call to war.

"Yehudin sunk his teeth in the neck of the second soldier, killing him, while two more soldiers ran from the embassy entrance, their weapons blazing. Yehudin dropped, cut in two by their terrible guns.

"By then the people of the street, freaks, roustabouts, barkers, even merchants, were running and charging the soldiers with sticks, rocks, teeth, and nails. The terrible guns killed seventeen and wounded many more before all the soldiers lay dead."

"Excellent, Zath. It needs work, but well done." Allenby pushed two purses across the table to the newsteller. Zath tucked the purses in his robe, stood, and left the room. Humphries fumed.

"By the living God, I'll have every person responsible for this before a firing squad!"

"Planning on committing suicide?"

"What do you mean?"

"The man responsible is sitting on your cushion right now, Humphries."

"Nonsense!"

"Is it?"

"I committed no crime, Allenby. I followed the orders of the Secretary. . . ."

"And disregarded mine."

"I followed the orders of the Quadrant Secretary of State, and four of my men were brutally murdered. We have enough officers on the *Elite* for a tribunal. You will form one and punish those responsible!"

Allenby drummed his fingers on the table, then poured himself a cup of wine. "There will be no tribunal, Humphries." He drank deeply from the cup, then lowered it to the table. "Until the Second Law is passed, the Quadrant has no jurisdiction or right of extradition on Momus. But, you are right about one thing."

"Yes?"

"A crime was committed. You made it possible, but you did not commit it."

"And the guilty parties?"

"They have all been tried, sentenced, and executed."

Humphries struggled to his feet. "You plan doing nothing?"

"As I indicated, the courts of Momus have ruled; it is out of Quadrant jurisdiction."

"My great God, Allenby! Are you forgetting your oath? Are you a member of the diplomatic corps, or are you one of those freaks? Whose bloody side are you on?"

Allenby looked at the table top, without an answer. "Get out, Humphries. Go back to the ship."

"You think the Secretary will ignore this?"

"I said *get out!*"

Humphries stormed from the room. Refilling his cup, Allenby sat alone drinking. As the light from the window grew dim and then ceased, Allenby still had no answer to Humphries's question. He wept, thinking of his friend Yehudin. The young newsteller had done a poor job; he should have learned the names of the dead and the wounded. Allenby was grateful. He could only imagine the additional friends he had lost or who were maimed in the battle. He heard Disus enter, but it was too dark to see through tear-filled eyes.

"Have you taken care of Yehudin?"

"Yes, Allenby, it is done."

"Who . . . who else was killed?"

"Tomorrow." Disus lit an oil lamp and held it under his chin. His face, white-painted with broad red lips, appeared under a huge purple fright wig. Prancing across the floor, his orange robe replaced by great plaid bags of trousers which bounced up and down on thick yellow suspenders, he lit another lamp and did a cartwheel, landing flat on his face.

"Stop, Disus. You make me laugh!"

"That is what clowns are for, Allenby. Laugh, for tomorrow comes all too soon."

§ § §

While Disus entertained Allenby, Fyx and Kamera sat together looking out upon the Great Ring. Empty and dark, the amphitheater seemed to swallow their voices. Dressed in his orange clown's robe, Kamera shook his head. "A terrible business."

Fyx leaned back and propped his elbows on the tier behind. "Gossip so far, Kamera. We haven't heard from a newsteller yet."

"Do you believe the gossip?"

Fyx nodded. "Tayla seems to be right. Even if the Ninth defends us, we must keep them away."

Kamera leaned back and waved a hand at the black sky. "How can we keep them away, Fyx, without something to look out for our interests?"

"You made your point well this morning." Fyx leaned forward and turned toward the clown. "But aren't these weighty and morbid things ill fare for a clown's ears?"

Kamera shrugged. "I find little to laugh at, that is true."

"Would the greatest clown on Momus care to purchase a joke from a poor magician?"

Kamera raised an eyebrow and smiled. "Comedy from a magician?"

Fyx shrugged one shoulder and nodded. "Today I saw magic from a clown."

Kamera sat up. "What do you have up your sleeve, old trickster?"

"I'll tell you this much: it's something more substantial than the famed Illusion of the Reborn Hand."

"How much would you charge for this amateur effort?"

Fyx smiled. "How much would you pay for the greatest joke you ever played?"

Kamera laughed. "My, but age has made you modest."

"Kamera, it is a joke that will pale all your previous performances, for it will be heard throughout the quadrant—perhaps even the galaxy."

"Fyx, there is barker in your blood." The great clown rubbed his chin, then nodded. "Very well, I'm listening."

The next morning at the Great Ring, the amphitheater's tiers packed and silent, the Master of the Ring opened the slip of paper handed him by the spectator's cashier. He read the paper, looked at the quiet delegates and cleared his throat. "Laydeeee and gentlemen! Allenby the magician would speak to the Great Ring!"

The cashiers moved silently among the delegates. The Master

Cashier climbed to Allenby's tier and bent down. "Allenby, if you would speak, you owe eight hundred and thirty movills."

Allenby turned to Disus and nodded. "Pay him." The clown counted out the coppers and handed them to the Master Cashier. Allenby stood and looked around the Ring.

"I, Allenby, speak to you . . . only as Allenby. This morning, only minutes ago, the Secretary of State of the Ninth Quadrant Federation of Habitable Planets ordered me removed as ambassador to Momus." The crowd whispered, and a few booed. The crowd silent, Allenby dropped his glance to the backs of those sitting before him.

"From the Tenth Quadrant, you face quick and thorough annihilation unless you are defended. But, from the Ninth Quadrant, if not so quick, your annihilation will be no less thorough. You heard Great Tayla speak." Allenby looked around the tiers, stopping on Kamera. "You also heard Great Kamera and know why Momus cannot decide on a representative to treat with the Ninth Quadrant. But, I tell you this: if the Second Law appoints no one to look out for Momus's interests, then no one will.

"This afternoon, Ambassador Humphries would speak before the Great Ring and have you vote to leave the form and method of Momus's defense to his office. The Secretary of State has ruled that this will satisfy the laws of the Quadrants. If this is what you do, then Great Tayla's tale will come true. . . ." He faltered, and looked down again. Disus rose and stood by him. "I . . . I feel that I have brought you to this. The mines of Momus do not contain enough copper for my apology." Bowing his head, Allenby sat down. Disus looked around the Ring, then took his seat next to Allenby.

From the north entrance, a cashier ran across the sawdust and handed the Master of the Ring a slip of paper. "Laydeeee and gentlemen! Great Kamera would speak to the Great Ring!"

As the cashiers moved among the delegates, Disus turned to Allenby. "Do you wish to leave?"

Allenby shook his head. "Even as children playing pranks while their house burns, they are entitled to their fun. I will stay." As the Master Cashier and his apprentice returned from the darkness of the north entrance, Allenby noticed Humphries and two aides enter from the spectator's side and take seats on the bottom tier. The silence of the Ring was broken by a familiar "squeegee! squeegee!" then laughter. The laughter sounded different—almost bitter.

The mask that emerged into the light was still one of boyishness, but one of sadness, too. The large blue eyes brimmed with jelly tears and the corners of the mouth were turned down. To applause, Kamera squeegeed into the Ring wearing his half-newsteller's, half-magician's costume and backwards fake feet. He held up his arms for quiet.

"I speak to you as Allenby the lost soul. But, I would not be lost, if a town would accept me." He held his arms out and turned around (squeegee! squeegee!). "Will no town accept me?"

Amidst the laughter, a number of "no's" could be distinctly heard. Kamera lowered his arms, slumped his shoulders and hung his head. "Then, no town owes me loyalty, and I may not give my loyalty to any town." Twin streams of tears literally sprang from the mask's eyes, then stopped. Kamera held up his hand and stood straight. "Wait! I am at least a magician. . . ."

"No!" All turned to see Fyx standing amidst the Tarzak Delegation. "You are no magician, Allenby. You never apprenticed, and you wear the newsteller's black. The magicians owe you nothing!" Fyx sat down to applause.

Kamera turned and ran to the Sina delegation (squeegee! squeegee! squeegee!) "Boosthit, I apprenticed under your wing. Am I of the newstellers?"

Boosthit stood and shook his head. "No, Allenby. You gave up your newsteller's robe to masquerade as a magician. The newstellers owe you nothing."

In mock panic, Kamera ran (squeegee! squeegee!) and stopped before Humphries. "Am I at least an ambassador?"

Humphries stood and looked nervously at the garish representation of Allenby pleading before him. "I thought . . ." He pointed up the tiers at Allenby, then turned back toward Kamera. "Ashly Allenby has been removed as ambassador to Momus. In addition, you . . . uh, he has been cashiered from the Ninth Quadrant diplomatic corps. He no longer has any claim to authority."

Tears again sprang from Kamera's mask, soaking Humphries's uniform. He turned to face the delegates (squeegee! squeegee!). "Then, there is nothing left for me! Nothing!" The volume of tears increased, then stopped. "Nothing, except to be the representative of Momus to the Ninth Quadrant." The tiers fell silent. "I put it to the vote. Shall I become Great Allenby, Statesman of Momus, to treat with the Ninth Quadrant on Momus's behalf?"

Allenby began snickering, then saw Humphries's confused face staring back at him. Allenby pointed at Humphries and laughed.

The laughter spread from the spectator's section throughout the ring, and soon the delegates took up the chant "YES! YES!" Kamera removed his mask and bowed toward Allenby, but the gesture was lost. Allenby, Great Statesman of Momus, had fallen off his tier.



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EXPLORING CARTER'S CRATER

by Martin Gardner

*A revised edition of Mr. Gardner's
The Ambidextrous Universe will soon
be published by Scribner's, and
"some time next year," Knopf will
put out a collection of his
Scientific American columns.*

On Mercury there is a crater which, for this problem's purposes, we assume to have a perfectly circular rim. It is called Carter's Crater after a great-grandson of President Jimmy Carter who became an astronaut and was the first to set boot on Mercury. Carter landed near the crater that now bears his name. At two random spots on its rim he established supply stations. Although Carter returned to earth safely, an unfortunate fire on the spaceship destroyed his records of where the supply stations had been placed.

Two years later, astronauts Smith and Jones were sent on a mission to explore Carter's Crater. They landed at a random spot near the rim, picked a direction (clockwise or counterclockwise) by flipping a flat piece of Mercury rock, and started walking along the rim to the nearest supply station.

"Assuming that the two stations, and the spot on the rim where we started walking, are all randomly and independently selected points," said Ms. Jones, "how far is the expected distance we have to walk before we reach the first station?"

"You mean," said Dr. Smith, "that if we repeated this event many, many times, what in the long run would be the average distance we would have to travel?"

"Precisely," said Ms. Jones. "Of course we have to include in each repetition the initial random selection of two points for the two supply stations. I figure it like this. The second station can be any distance from the first, from zero to the length of the crater's circumference. So the average distance will be half the circumference. Now we had the same chance of landing in one of those semicircles as the other. In either case our average distance from the two stations would be half a semicircle. Therefore the expected distance to the nearest station must be one-fourth of the circumference."

"Sounds plausible," said Dr. Smith, whose Ph. D. was in statistics, "but that's *not* the right way to go about it. The expected distance is . . ."

What correct distance did Dr. Smith give, expressed as a fraction of the crater's circumference? For the answer, see page 63.



SOLUTION TO THE POSTAGE STAMPS OF PHILO TATE (from last month's issue)

In the last issue, readers were asked to find a sequence of seven values for seven postage stamps that would make any sum from 1 through 70 when the stamps were taken one, two, or three at a time. The only solution is:

1, 4, 5, 15, 18, 27, 34

The solution was proven to be unique by W. F. Lunnon, a British mathematician. He discusses the general problem— n values, and no more than m stamps to be used at one time—in his paper on "A Postage Stamp Problem," in the *Computer Journal* (a British publication), Vol. 12, November 1969, pages 377–380.

VINCENT DI FATE

by Ginger Kaderabek

The purpose of science fiction art, like the purpose of science fiction, is to prepare for the future and future shock—because “the future is coming whether we want it or not,” says cover artist Vincent Di Fate.

Di Fate, who with a mustache and dark curly hair looks younger than his reputation would imply, was born in Yonkers, NY. He grew up and went to high school in that area of New York State. Now 32, he lives in Mt. Vernon, NY.

In a recent interview, he said that he's always drawn, but didn't really set out to be an illustrator. His original intention was to be involved with film work and his first exposure to science fiction was through films.

“The first movie I ever saw was in 1950 when I was about four years old and saw *Rocketship X-M*,” Di Fate recalled. The youngest of six children, he went to the movie with his brother, who was about six at the time, and the man at the ticket window gave them punch-out three-dimensional spaceship toys. “I played with it practically until the ink wore out.”

Rocketship X-M marked the beginning of the 1950s cycle of science fiction films and Di Fate saw them all first run.

“The first book I ever read all the way through was (Robert) Heinlein's *The Puppet Masters*. It scared the hell out of me and, I guess, made me a science fiction fan forever,” he said. He read all the science fiction he could throughout his childhood, being partial to Ace Doubles “because they had two covers. Even then, I was visually oriented.”

He grew up in a scientifically oriented family. His father was at one time an aeronautical designer and Vincent and his brother Vic, who is now a research chemist, read and talked about astronomy and other sciences. The younger Vincent would visualize what they talked about and draw it.

He would also come home and draw the things he had seen in science fiction movies. “I remember vividly doing that with *X-M*,” he said.

“I lacked the acumen in mathematics to turn science into a profession. In a manner of speaking, I'm still involved with science but at a level I can work with.”

When he left high school, Di Fate still intended to work in

films, but there were only two schools teaching film work and "I couldn't afford either of them." So he decided to go to art school and then find a way from there into films.

After attending the Phoenix School of Design (now part of Pratt Institute) in New York City on a scholarship, he got a job doing animation backgrounds for Krantz Films. The old Terrytoons studio in New Rochelle, NY, had been moth-balled as the animation studios moved out West where there was more land and lower taxes, and the only animation being done in New York was on a freelance basis. Steve Krantz and Ralph Bakshi, who is now producing the animated *Lord of the Rings*, bid to take over the "Spiderman" animated series. They won the bid and work on the series was moved to New York.

After doing backgrounds for the series, Di Fate was promoted to being an "in-betweener"—the artist who does the drawings in between each start and stop in animation as calculated by the animators. In-betweeners are usually chosen from good draftsmen and "I had to clean up a lot of the drawing. Most of the animators were from Terrytoons and used to drawing sausages for Mighty Mouse and the like. They weren't used to drawing accurately."

Di Fate's career as an animator ended in 1969 after the *New York Times* ran an editorial deploring violence in children's shows. The series petered out and Di Fate, who had not worked long enough to be a member of the animators' union, was the first to be let go.

"I had a portfolio of science fiction art because I was always interested in that field, along with my "Spiderman" work. I took it to John Campbell and in 1969 did my first art for *Analog*. I've been full time as an illustrator ever since."

Beginning with black-and-white interiors and then covers for *Analog*, Di Fate did a number of hardcover book covers. Then Charlie Brown, editor of science fiction news magazine *Locus*, suggested that he come to a *Locus* collating session and "see what fandom was all about."

At the time, Di Fate's wife Roseanne was very ill and "I was not too sure about my skill and about my ability to do more work than I was doing."

But Brown set up an interview for the artist with Betty Ballantine, who at the time was editing Ballantine Books's science fiction line. He started working for Ballantine, then for Avon and Berkeley Books; by now he's worked for just about every major paperback publisher.

In addition to science fiction illustration, Di Fate has done a good deal of commercial work, all "different manifestations of the science of science fiction." He recently finished a cutaway drawing of the lunar module for an ad agency doing a campaign focusing on the 10th anniversary of the moon landing. His commercial work has always been science or science fiction oriented, drawing "ads with little Martians in them" or designing a medallion commemorating the lunar landing.

On doing a typical book cover, Di Fate said, "If I get the manuscript, I read it. I have a legal pad; and as I read, I jot down notes, descriptions, and page numbers. If I'm fortunate enough to get a copy that I can keep, I pull out pages and underline them. On the same legal pad, I do thumbnail sketches, then make a sketch to show the client and go into the finish." If, on the other hand, the artist does not get a manuscript, he works from descriptions supplied by the client.

Describing his work as "very planned," Di Fate said, "I leave as little to chance as possible." In painting, Di Fate tends to use the white of the board on which he's working as the white in the painting, and uses glaze techniques to bring this out.

In addition to his education at the Phoenix School, Di Fate has taken numerous other art courses plus courses in diverse subjects such as paleontology and astronomy. "I'm a compulsive education nut interested in many things."

On art education, he said, "I have a lot of it because I believe in it. Just about any illustrator worth his salt who's been in the business a while has gone back.

"I think a basic art school education is absolutely necessary. The field is very competitive and a lot of the kids in it now have talent, but they need to learn to paint." They must also learn art basics such as composition; as well as how to gauge how a painting will look in paperback or magazine size, Di Fate said.

A science fiction illustrator has to be "flexible enough to work in other fields. The science fiction publishing boom now has to drop back some. They're publishing too much now and they can't sustain the quality." Science fiction interest has traditionally been cyclic and "the average science fiction illustrator has to learn how to draw people to tide him over during the time when he can't draw machines."

Di Fate continued, "For totally subjective reasons, I hope science fiction is here to stay. Now we're in an enormous boom, but it's happened before, in the '50s and early '60s." Even if not as

much science fiction were to be published, "there're a lot of interesting things happening in the real world. The space shuttle will hopefully be our foothold in space. We're beginning to see the fruits of space exploration and I believe men will be living in space in the not-too-distant future. . . . In the next decade, people will be living on a regular basis in space, opening a whole new frontier. When we can mine the resources of the solar system, I think it will change the economy of the world.

"The future that I see is the science fiction future I've always dreamed of. So when science fiction cycles down, there'll be a stimulating enough reality for it not to be terribly disappointing."

DiFate's interest in the science fiction illustration field has been shown in his column on illustration in *Algol*, a magazine about science fiction, and in the slide shows on science fiction art which he has been presenting at various science fiction conventions over the past few years.

"It's a small enough field that virtually anyone who picked up a paintbrush made some effect on the field," he commented. He maintains there are three major manifestations of science fiction art—gadget painting, figures in a scientific environment, and the surrealistic or symbolic painters. There is a great deal of overlap in these categories, Di Fate said, commenting that although Kelly Freas is basically a "figures in a scientific environment" painter, he has done "some of the finest gadget paintings I've ever seen."

"Gadget painting," in Di Fate's terminology, essentially began with Frank R. Paul and includes painters who "specialize in the specific rendering of machines." These include Dean Ellis and Alex Schomberg.

The "figures in a scientific environment" school began with H.B. Brown and Hubert Rogers and continued in the "Golden Age" of *Astounding Science Fiction* with Freas and Ed Cartier.

Paperback cover art, Di Fate said, had an independent evolution from the art in the science fiction magazines, noting that many fine mainstream illustrators such as Robert Schultz and Stanley Meltzoff came in and out of the science fiction paperback field. Meltzoff taught at the Art Students League; and two of his students, John Schoenherr and Paul Lehr, fall into the third category, the surrealistic or symbolic. But, Di Fate said, Richard Powers was "the major formative factor" in the development of this style.

There are sidelights to the field, such as Frank Frazetta, who has stimulated a whole school of painting. Di Fate cited Jeff Jones

and Boris Vallejo as two artists originally influenced by Frazetta who have gone on to establish their own styles.

Di Fate, who was instrumental in the organization of the Association of Science Fiction Artists, is a great advocate of artists' rights. He feels that when the new copyright laws—which he described as "both beneficial and disastrous"—come into effect and go through the courts, there will be many changes going on in the artists' rights field.

"The realization of artists' rights is a long way away," and effective movement will have to come from organizations which cover the entire illustration field, such as the Graphic Artists Guild, not just through an organization of science fiction illustrators. "If all half-dozen of us stormed off, it wouldn't make any difference," he chuckled.

One problem with artists' rights is that "an aspect of being an illustrator is a certain ambivalence towards business." As basically bad businessmen and as persons who are emotionally involved in their work, illustrators are in a bad position to negotiate for better contracts and for the sale of only limited rights on paintings. Another problem is that the question of contracts is a gap in most art students' education.

"I speak a practical game, but I'm just as frightened as other artists. I've just been roughed up enough to really want to see it changed. If enough of us cowards get together, we can wield a pretty good club, but it would take all the freelance illustrators."

Di Fate is a winner of the Frank R. Paul award for outstanding achievement in science fiction art, voted by the members of the annual Nashville, TN, science fiction convention, as well as numerous art show awards.

Di Fate said he appreciated the recent inauguration of the Frank R. Paul Award as an additional recognition of science fiction artists, but said the field does not necessarily need more awards, just more recognition of its function as a medium for science-fictional ideas.

"I think science fiction art is beginning to be recognized for what it is. When the Smithsonian began to collect science fiction art for its space art collection, it gave a blast of respectability to science fiction art."

Before there was an established science fiction genre, there was science fiction art in the work of astronomical artist Chesley Bonestell and the astronomical art done for the *Colliers Magazine* series, Di Fate said.

"The future is coming whether we want it or not. The purpose of science fiction and science fiction art is to prepare for the future and future shock. This is the basic value of science fiction art, and I think anything that publicizes the value of science fiction art has to be a plus for the field."

Recently, Di Fate has been doing a number of lectures and talks, which he has found "very rewarding." He was to speak in late summer at the International Conference of Planetarium Educators in Washington along with Alfred Bester. "I'm looking forward to meeting people involved in education and other applications of the science fiction field. I don't know where it will lead, but I like the personal contact a lot. Illustration is very subjective and when you spend 15 hours at it a day, you lose perspective. Getting out and speaking reassures me of the fact that people are a hell of a lot smarter than you think they are."

Di Fate's current projects are "mostly the same old thing." He has a number of book covers scheduled plus some book collaborations with authors and is negotiating on possibly working with several films. He also has plans for doing some fiction writing.

As for the future, "My big goal is to have two weeks off—I don't have any terribly vast ambitions," he laughed. "One of my lifelong ambitions has been to be involved in a film—hopefully, the classiest science fiction film ever ever. . . . I'd also like to work more in the aerospace market. To me, anything that promotes the future is a good thing. I like getting involved in projects I feel are basically sound and have a forward look to them."

Di Fate has been married to his junior-high sweetheart Roseanne for 10 years. She was an elementary school teacher before the birth of their two sons, Christopher, 4½, and Victor, 1½, and has "less than an average interest in science fiction."



THE FIRST SOLUTION TO EXPLORING CARTER'S CRATER

(from page 56)

Our problem first appeared in *Eureka*, a publication of mathematics students at Cambridge University, in October 1966. Here is how Professor D. Mollison, of Trinity College, Cambridge, answered it.

"The three [points] are undistinguished random points. Consider each in turn as moving to its right (say) till it reaches one of the others. We see that the three distances are identically distributed random variables with sum 1; hence each has mean $\frac{1}{3}$."

In other words, Smith and Jones can "expect" to walk a distance equal to one-third of the crater's circumference. This, of course, is an average over the long run of repeated trials.

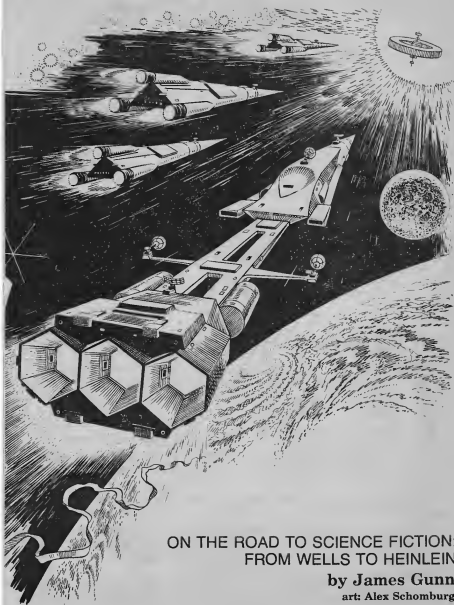
After reaching the first supply station, Jones and Smith loaded their packs with food and began to explore the crater. First they walked in a straight line from the supply station until they reached the crater's rim again. The distance they covered was 5 kilometers. They then turned at a 90-degree angle and walked in a straight line for a distance of 12 kilometers until once more they arrived at the rim.

What is the crater's diameter? (See page 81.)

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ON THE ROAD TO SCIENCE FICTION:
FROM WELLS TO HEINLEIN

by James Gunn

art: Alex Schomburg

Born in Kansas City MO in 1923, Mr. Gunn received his B.S. degree in journalism in 1947 after three years' service in the U.S. Navy during World War II, and his M.A. in English in 1951, both from the University of Kansas, where he now serves as Professor of English and Journalism, specializing in the teaching of fiction writing and science fiction. He started writing in 1948, was a full-time free-lance writer for four years, and has had some 70 stories in magazines and books. The following article is the introduction to his book, The Road to Science Fiction II: from Wells to Heinlein, to be published by Mentor Books this February.

I.

Science fiction began to take recognizable shape around the beginning of the 20th century through the creation of the mass magazines and the work of a number of authors, but particularly that of H. G. Wells. Up to that time, science fiction was a scattering of responses to new developments in science and technology and their impacts on society.

The origins of science fiction can be traced back at least as far as Mary Shelley's powerful Gothic novel about the creation of artificial life, Hawthorne's fables of science, Poe's strange journeys and light-hearted speculations, and Verne's *voyages extraordinaires* . . .

Wells saw science and technology becoming central facts in people's everyday lives, and he began to think of humanity as a species, even as a species whose survival was uncertain. His inquiring mind and his art assembled the various elements of a new fiction out of earlier fragments. For good reason Wells is called the father of modern science fiction.

He didn't call it "science fiction," of course. What he wrote were called "single-sitting stories of science" or "scientific romances."

Hugo Gernsback, in 1929, would give the genre the name that would stick, science fiction.

What is it? Where did it come from? I like the following definition:

Science fiction is the branch of literature that deals with the effect of change on people in the real world as it can be projected into the past, the future, or distant places. It often concerns itself with scientific or technological change and it usually involves matters whose importance is greater than the individual or the community; often civilization or the race itself is in danger.

Before science fiction could be written people had to learn to think in unaccustomed ways: 1) they had to learn to think of themselves not as a tribe, or as a people, or even as a nation, but as a species; 2) they had to adopt an open mind about the nature of the universe—its beginning and its end—and the fate of man; and 3) they had to discover the future, a future that would be different from the past or the present because of scientific advance and technological innovation.

Humanity discovered the future in the 18th and 19th centuries when the ways in which life, and how thinking people thought about it, was being changed, radically and irreversibly, by science and invention. This discovery and these changes inspired the fiction that a few writers began to create. Humanity was born into a universe that was mysterious and unknowable, in a condition of helplessness amidst natural forces; slowly, through science, it began to perceive the universe as comprehensible, and to move from a reliance on magic or a resignation to the omnipotence of the gods to a growing independence from the tyranny of nature.

Gradually humanity learned that it could determine its own destiny through the use of its mind to understand and to change. The Industrial Revolution provided an illustration of how the process could work. The conversion of chemical energy into power, and the ingenious application of power to the innumerable tasks of humanity, showed how technology was translated into social change.

A few authors responded to this new force in human affairs, but almost a century would elapse after James Watt's invention before any meaningful recognition of this new world and its new

way of thinking about the universe would show up in fiction. If humanity's future was in its own hands and not subject to the whims of cruel gods or to the grand design of some beneficent deity, humanity should devote some thought to the factors in the present that were shaping the future.

That was science fiction.

But science fiction was not simply futurism. It also could be said to date from the publication of Charles Darwin's *Origin of the Species* in 1859, which provided a scientific rationale for a process that had slowly enlarged the meaning of the word "human" until it encompassed the entire species. The view of humanity as a species was not only characteristic of science fiction but essential to it.

Because science fiction is so protean, every definition seems to cover only one aspect of its nature. Thus it has been called a literature of ideas or the literature of anticipation or the literature of change.

It could also be defined as the literature that concerns itself with the condition and fate of the human species.

II.

Human society has evolved from the individual through the family unit, the tribe, the village, the city, the region, the nation, and, its most recent form, the alliance of nations. Next comes humanity as a species. All the way along that progression, full humanity has been denied to anyone who was not a member of the social group; outside the group were at best barbarians and at worst aliens, nonhumans. It was not only permissible but reasonable to treat these nonhumans inhumanly: to rob, rape, kill, or enslave. To make war on those outside the group, for whatever cause, was righteous, and to conquer was to enlarge the holy area where sanity and goodness prevailed, where "humanity" existed.

The literature of any period fulfills the needs of its social situation. Out of the tribal era came folk tales about the creation of the tribe and about its survival through flood and plague and battle. Out of the city-state came epics about heroes who built the city or repelled invaders, who won favor with the gods and interceded with them, or sometimes sacrificed themselves, for the people. Out of religious eras came devout drama to explicate doc-

trine and remind audiences of the place and function of godhead, and literature about good and evil, about the way to achieve transcendence, to discover divine will and live in consonance with it, to be saved. Out of times of nationalism came fiction about the way wars are won and lost. Out of an era of individualism came stories in which the sense of community is virtually absent and the major concern is with the discovery of self, with individual adventures rather than the victories of the culture hero, and with the sometimes tragic discovery of the whatness of things.

In Wells's turn-of-the-century novels and stories, the focus of concern became the species. In a period when other authors were writing about the small-scale tragedy of the individual or the social tragedy of the unfortunate, *The Time Machine* and *The War of the Worlds* involved the fate of all humanity. These broad strokes across the literary canvas, as much as the fantastic plots, distinguished Wells's science fiction and his later utopian fiction from his so-called comedies; the same kind of broad view displayed itself in his three encyclopedic works, *The Outline of History* (1919), *The Science of Life* (1930), and *The Work, Wealth, and Happiness of Mankind* (1931).

III.

As science fiction built upon the splendid beginnings of Wells's early fiction, its essential qualities emerged only slowly from the many forms in which it was expressed. Science fiction's proliferation of forms has always confused definition. The murder mystery has an action and the western has a place; science fiction has neither. It is capable of ranging over all kinds and degrees of action, all time, from the beginning of everything to its final end, and all space, from the infinitely small to the universe itself.¹

Science fiction, moreover, has freely adopted other modes to suit its purposes, the adventure story, say, or the love story. Even science fiction sports stories are not uncommon, and the science fiction western, in which a lone hero exchanges his horse for a rocket ship and his six-gun for a blaster, became so prevalent that H. L. Gold, founding editor of *Galaxy*, advertised that his magazine would never print such stories. For many years the late John W. Campbell, editor of *Astounding/Analog*, insisted that the science fiction mystery story was an impossibility, because the

science fiction detective had such infinite potentials that the story could not play fair with the reader; but Isaac Asimov proved him wrong with such science fiction detective novels as *The Caves of Steel* (1954) and *The Naked Sun* (1957), and at least one volume of short stories (*Asimov's Mysteries*, 1968).

Sometimes science fiction seems to fall naturally into one mode, sometimes another. Asimov had divided the history of modern science fiction (according to his definition, after 1926) into four periods: adventure-dominant between 1926 and 1938, science-dominant between 1938 and 1950, sociology-dominant between 1950 and 1965, and style-dominant since then. Though the terms are not all parallel, they can be useful ways of cataloging information. The problem of definition is to separate the unique qualities from those a genre may have adopted as a means of telling a story. In science fiction the traditional definition depends on subject matter: science fiction is "about" something such as science, technology, change. But another way of defining science fiction is by its attitude.

In the age of faith, humanity was urged to subordinate its earthly desires for the sake of an afterlife; the problem of the individual was not how to discover himself but how to become more like some ideal Christian. The age of faith gradually became the age of the individual. The Protestant Reformation made every person his own interpreter of God's word, the discoveries of science provided alternative explanations for creation, and accelerating technology destroyed the old social order that had provided traditional answers and left every person to find his own.

Out of the age of the individual came fiction that raised questions not about faith but about the individual: will he/she live or die, succeed or fail, find love or lose it, recognize the true nature of things or remain ignorant. In the midst of Conrad, James, and Bennett, Wells's concerns seemed not only out of step but unliterary.

VI.

The Time Machine (1895) and *The War of the Worlds* (1898) were unusual in many ways, but one unique aspect was their focus on the fate of humanity rather than the fate of any one person, and in a story such as Wells's "The Star" (1897) the fate of

the planet is so much in the foreground that the individual scarcely exists. Even an apparently small-scale comedy such as "The New Accelerator" (1901) is not so much a story of an inventor's success or failure as a continual reminder of the social implications of the invention, including the sly satire at the end on the irresponsibility of the scientist.

Even science fiction published in the first two decades of this century displays a concern that transcends the individual. E. M. Forster's "The Machine Stops" (1909) obviously is about all humanity, and the destruction at the end presumably is universal. The adventure fantasy of Edgar Rice Burroughs's *Under the Moons of Mars* (1912) and its many sequels deals with the many races of Mars, the history of the planet, and the struggle to save remnants of civilization from the evaporation of its seas and the planet itself from the disappearance of its air. A. Merritt's *The Moon Pool* (1919)—the novel of which "The Moon Pool" became a part—involves a threat to the survival of humanity. H. P. Lovecraft's "Dagon" (1919) and his other horror stories are based on a mythology about elder gods and their relationships with contemporary men and women. Jack London's "The Red One" (1918) describes one man's involvement with an alien spaceship but has implications beyond his individual fate.

If humanity-wide implications are not involved, or insufficiently involved, the piece of fiction may more appropriately be called something else. Perhaps it is more of a love story in a strange setting, an adventure story, a fable, a parable, or a study of character. Such questions of emphasis and attitude may help explain the controversy over "the New Wave" of the mid-sixties.

Whether or not this species-broad concern of science fiction can be elevated into a basic requirement of the genre, this way of looking at it can illuminate some of its characteristics. British critic, author, and anthologist Edmund Crispin, for instance, used this view of science fiction to help explain its treatment of character. Calling science fiction "origin of species fiction," he wrote:

Its basic valuation of man is as just one of a horde of different animals sharing the same planet. Given this, it is not difficult to see that in science fiction individuals are apt to count for very little in their own right. The multitudinousness of the human species forbids us—if we are going to adopt such a standpoint—to take really seriously Madame Bovary or Strether or Leopold Bloom.²

In any case, in the first forty years of the 20th century science fiction began to ask questions that had never before been asked: will humanity progress or regress? will its social forms change? will humanity survive?

After the creation of the first science fiction magazine in 1926 and particularly during the thirties with its proliferating publications, its expanding audience, and its specialized authors, these questions began to sort themselves into categories: journeys, aliens, the past, the future.

Many early stories were long journeys of one kind or another. One purpose of the journey was to lend credibility to the strange creatures or civilizations encountered, or the events that happened. In "lost race" stories such as H. Rider Haggard's *She* or in the adventure stories of the early pulp magazines, the journeys were to unexplored places on the earth; occasionally they reached other worlds by astral projection. Writers turned to spaceflight when it became more believable than unexplored areas of the earth.

Other than a plausible narrative (as opposed to fantasy), such journeys offered the writer an opportunity to place people in strange environments, to compare humans with aliens, and familiar civilizations and environments with those that were different in meaningful ways; and an opportunity to compare contrasting moral and ethical principles, and physical and biological divergences, and their influences on humanity. The stories asked: are the conditions we take for granted the same everywhere in the universe? are people the same everywhere? how would life be changed if either were significantly different? can humanity survive or thrive under extraterrestrial conditions? Underlying the theme of the extraterrestrial journey were the basic notions that humanity had the right to conquer as much of the universe as it could handle, and that placing human colonies on other worlds would increase humanity's chances for survival.

Other kinds of stories served to define humanity and to describe its prospects in other ways. Sometimes aliens were used directly to test humanity's characteristics or its right to survive. Stories about the distant past usually focused on the way humanity became human or the species evolved or contemporary civilization succeeded others (but may be repeating its fatal decisions). Stories about the future became more common and offered opportunities to deal with humanity's potential for improvement or change, its basic nature, or its fate. Sometimes the future held Armageddon,

which questioned humanity's sanity or its ability to survive its own destructive impulses. Sometimes it held other threats, such as overpopulation, pollution, energy shortages, plagues, dehumanizing technology, dangerous discoveries, and such overwhelming natural phenomena as earthquakes, floods, ice ages, changes in solar output, stellar explosions.... Sometimes it offered mysteries and the fundamental appeal of the unknown, the "sense of wonder" that is often mentioned in discussions of science fiction.

No other kind of fiction dealt with these kinds of problems. In the beginning the questions science fiction was asking seemed remote, fantastic, mere amusing speculation, but beginning in the late thirties and continuing into the present many of them became more real and more important than the questions other kinds of fiction could raise about the individual.

V.

The development of science fiction was influenced by other factors. In the 18th and 19th centuries, science and technology changed people's attitudes; in the 20th century they continued to help shape science fiction. During the Industrial Revolution science and technology changed society surely but not always directly and perceptibly; from 1900 to 1940 they became part of the everyday life of the average person in western civilization.

Wells's vision of the future became reality during his lifetime. Medicine and public health measures lengthened lifespans. Electricity brightened the night and provided convenient power at the end of two wires. Radio, the telephone, the automobile, and the airplane began to shorten distances, to provide new means of communication and a new kind of personal mobility, and to offer new uses for leisure time that factories and new production methods were supplying, along with unprecedented abundance that had to be shared with workers to be fully realized. The secrets of the universe were being probed with increasingly powerful telescopes and the atom was being divided into increasingly smaller particles that held the promise of inexhaustible sources of energy. Many of these scientific discoveries and inventions were being applied to warfare, to make it more deadly and more total.

For the first decade or so of the 20th century, western belief in

progress developed into a kind of religion. Humanity was perfectible, it said, and through the application of its intelligence to the obstacles that stood in the way of the millenium, particularly through the education of new scientists and engineers and through the application of the scientific method, the problems of humanity could all be solved. Day by day in every way humanity was getting better and better, to paraphrase Coué. Progress was its most important product, to paraphrase Dupont.

The fading of otherworldliness in Christianity and of the Renaissance reverence toward antiquity prepared the way for a belief in progress that developed out of the substantial accomplishments of Western Europe and the steady improvement in humanity's relationship with its physical and social environment. New continents were opened by the voyages of exploration; new views of the universe and humanity's place in it were revealed by Galileo and Newton. Agriculture and transportation improved spectacularly. After the fading of the Black Death and the end of the Hundred Years War, Europe became relatively free of plague and war. Artists like Michelangelo, Shakespeare, and Goethe produced works that rivaled or excelled that of the Greeks and Romans. Population increased steadily. Everything contributed to a growing confidence that all of humanity's problems that had not yet been solved were solvable.

Optimism about the future may have reached a peak in the late 19th and early 20th centuries, and with some justice: the populations of Western Europe had nearly doubled in the century before 1914, in spite of the substantial emigration to the United States, where population had increased ten times in the same period. Industry had grown even faster: per capita income doubled in the thirty years preceding 1914. A new emphasis on education in England and the United States virtually eliminated illiteracy and created not only a new labor force to cope with the new technology but a new audience for newspapers and fiction in various forms.

World War I brought disillusionment about social progress, but the introduction of new weapons of war (both the tank and aircraft were foreseen by Wells, and the Martians in *The War of the Worlds* used a black poison gas as well as the heat rays that science has not yet, apparently, perfected) may have horrified, but at the same time they enhanced a faith in technology that the inventions of the next two and a half decades continued to feed. They also may have broadened the split between embittered liter-

ary traditionalists and the writers of the novels and stories that soon would be called science fiction, paralleling the division between "the two cultures" described by C. P. Snow. Even before World War I, E. M. Forster reacted to Wells's utopian phase with "The Machine Stops," but the full-scale attacks on the belief in progress came later, with Aldous Huxley's *Brave New World* (1932) and George Orwell's *1984* (1949.)

During the first forty years of the century, however, few science fiction writers were pessimists. Not for them the melancholy of the lost generation. Like the founder of the first science fiction magazine, Hugo Gernsback, early science fiction writers generally were fascinated by the possibilities of science and invention or they used those possibilities as a launching platform for their dreams about fantastic human adventures or achievements.

New inventions began to influence directly the way in which science fiction was made available to its readers. Foreshadowing McLuhan, the medium would shape the message. The railroad, the truck, and a system of national distribution brought magazines to every town within practical time limits. The rotary press and the halftone engraving made printing and illustration cheaper and the mass magazine possible. The general education opportunities provided in England by the Education Act of 1871 and the compulsory primary school movement in the United States after the Civil War provided new readers.

Then, in 1884, two new inventions—the linotype and the process for making paper from wood pulp—lowered the cost of printing still more and made possible the pulp magazine.

VI.

Popular literature would have seemed like a self-contradiction until the last century or so. The literature of the populace, the vulgate, the ordinary people,³ existed only in oral form for most of humanity's history; only higher literature (officially approved by those who had the leisure and the skills to read) was written. Popular fiction emerged into the written tradition in the 18th century with the novel and later the short story.

With the growth in literacy and cheaper methods of publishing, fiction began to be produced for people with limited means to purchase it, limited time to read it, and limited backgrounds for un-

derstanding it. In Dickens's day many novels (including Dickens's) were serialized in penny newspapers or published in penny dreadfuls; their counterpart in the United States, beginning in 1860 and continuing in popularity until they began to be replaced by boys' magazines in the 1890s, was the dime novel.

New publishing enterprises brought forth a new kind of entrepreneur, like Frank A. Munsey. He came from Maine to New York in 1882 with the dream of becoming rich by publishing a boys' weekly to be called *Golden Argosy*. In 1888 the name was shortened to *Argosy*, and in 1896 it became an all-fiction magazine. The first pulp magazine offered 192 pages of fiction for a dime. The audience was conceived to be mainly the sons of working-class fathers and perhaps some members of the still-emerging middle class. What that audience wanted was adventure stories, and the new pulp magazines supplied all kinds of them: wild-west stories, sea stories, spy stories, war stories, travel stories, and fantasy stories and scientific romances as well.

Argosy was followed in 1903 by Street & Smith's *Popular Magazine*. In 1905 Munsey brought out *All-Story Magazine*. That same year *The Monthly Magazine* was started; two years later it was renamed *Blue Book*. In 1906 Street & Smith published *The People's Magazine*, and Munsey, *The Scrap Book*, whose fiction section was named *The Cavalier* in 1908; shortly thereafter it became an independent magazine.

The stories and novels of H. G. Wells were published in the United States in magazines like *Cosmopolitan*, but the pulp magazines serialized H. Rider Haggard's *Ayesha*, the sequel to *She*, and the stories and novels of such authors as Garrett P. Serviss, William Wallace Cook, George Allan England, and an author new to readers in 1912, Edgar Rice Burroughs.⁴

The pulp magazines were edited under the assumption that readers would as soon read one adventure story as another. A second possibility began to emerge from the letter columns that had become a part of every pulp magazine: some readers liked one kind of adventure story better than another. The response of the publishing entrepreneurs was to create the category pulp magazine.

Munsey published the first of them in 1906, *The Railroad Man's Magazine*, filled with the adventures of railroading, and in 1907, *The Ocean*, a magazine filled with sea stories; the latter lasted only a year. But the real beginning of the category pulps was in 1915 when Street & Smith created *Detective Story*

Monthly, and followed it in 1919 with *Western Story Magazine* and in 1921 with *Love Stories*. Finally, in 1926, someone worked up enough courage to publish a science fiction magazine. His name was Hugo Gernsback, and the magazine was *Amazing Stories*.

An immigrant from Luxemburg in 1904, an inventor, and a salesman not only of radios and electronic equipment but of the spirit of science and invention that lay behind them, Gernsback had been publishing popular science magazines since 1908, when he founded *Modern Electrics*. He sold the magazine in 1912 and started *Electrical Experimenter*; in 1920 he changed its name to *Science and Invention*. Beginning in 1911 with his own serialized novel about technological marvels of the future, *Ralph 124C 41+*, Gernsback started including an occasional science fiction story, and in 1923 the August number of *Science and Invention* was devoted entirely to "scientific fiction."

"Scientifiction" was what Gernsback called it in the first issue of *Amazing Stories*, and he described it as "the Jules Verne, H. G. Wells, and Edgar Allan Poe type of story—a charming romance intermingled with scientific fact and prophetic vision." At first the magazine contained only reprints, mostly from Verne, Wells, and Poe, but within a few months new stories began to appear. One of his finds was Edward Elmer Smith, Ph.D. (a doughnut-mix specialist whose first novel, *The Skylark of Space*, had been started in 1915, completed in 1920, and not published until 1928). Another was Philip Nowlan, creator of Buck Rogers.

In 1929 Gernsback lost control of his publishing empire and immediately started building another, including two science fiction magazines, *Science Wonder Stories* and *Air Wonder Stories*, which he soon combined into *Wonder Stories*. In the first issue of *Science Wonder Stories* (June, 1929), he described what he was going to publish as "science fiction."⁵

In 1930 a pulp magazine chain called Clayton Magazines added a science fiction magazine called *Astounding Stories of Super-Science*. Now there were three magazines. Science fiction not only had been named; it began to be defined by the medium in which it was published. The new men of importance were not the writers but the editors; they defined what science fiction was, and what it was not, by what they were willing to publish.⁶

§ § §

About the same time science fiction got a specialized magazine and a name, book publication of science fiction almost ceased. The fantasies of A. Merritt continued to be published; and in Tarzana, California, Edgar Rice Burroughs founded a company to publish his own work. The old standards were reprinted—Verne, Wells, Haggard, M. P. Shiel, Conan Doyle—and certain new books were published, books that belonged to the genre according to every criterion but one—they weren't published in the new magazines. They were books like Stapledon's *Last and First Men* (1930) and other novels, and Huxley's *Brave New World* (1932). The old pulp magazines had been mined by publishers for novels, but the new literature that was being created for the magazines was neither published in book form nor reviewed from 1926 until 1946.

It seemed as if the focus of the genre in the magazines had removed it from the literary view; it became sub-literary, beneath critical consideration. Instead of establishing a science fiction homeland, Gernsback had created a ghetto. It was, however, a ghetto filled with enthusiasm. Letters from readers arrived by the sackfuls. When these began to be printed in letter columns, along with addresses, readers started corresponding, formed clubs, issued fanzines, and eventually organized conventions. In the ghetto, readers created a fan subculture.

Writers had more problems. The editors were in charge, and their decision was final.

The early pulp editors had been men of influence, too. Robert H. Davis, identified with Munsey's *All-Story*, *Scrap Book*, and *Cavalier*, discovered and encouraged many new writers. Thomas Newell Metcalf, managing editor of *All-Story*, brought Edgar Rice Burroughs's first novel, *Under the Moons of Mars*, and then *Tarzan of the Apes*, but unaccountably lost *The Return of Tarzan* to Archibald Lowry Sessions, editor of Street & Smith's *New Story Magazine*.

The science fiction magazines, however, were fewer and more particular. A good story was not enough; it had to fit a more precise gauge, not only in subject matter but sometimes in accuracy, development, and attitude as well. Even *Weird Tales*, founded in 1923 and edited for many years by Farnsworth Wright, carved out its own little crypt.

Amazing Stories was edited by T. O'Connor Sloane, an elderly

man whose chief claim to authority, besides possession of an M.A. and a Ph.D. proudly displayed on the masthead, was that he was a son-in-law to Thomas Alva Edison. But Gernsback himself laid down the requirements. He saw his new "scientifiction" as a way to promote understanding of science and technology through fiction, a kind of candy coating for a pill of instruction. His formula was "75 percent literature interwoven with 25 percent science." It was a formula that was more honored in the breach than the observance, but Gernsback retained his convictions to the end: in 1963 he complained to a science fiction club that of the first nine Hugo winners for short fiction (the annual award for excellence presented by the World Science Fiction Convention and named in Gernsback's honor) only one deserved to be called science fiction. The rest were fantasy.

The editor of *Astounding Stories of Super-Science* was Harry Bates. He wanted well-plotted adventure stories that would fit into the pattern of the other Clayton pulp magazines. He had a major advantage over *Amazing Stories* and *Wonder Stories*; he could pay two cents a word on acceptance. The others paid as little as they could and no more than half a cent a word on publication, and sometimes, as H. L. Gold recalled, only on threat of lawsuit. But *Astounding* never made expenses as a Clayton magazine, and when the Clayton chain collapsed in 1933 *Astounding* was sold to Street & Smith.

A 17-year-old fan, Charles D. Hornig, was named editor of *Wonder Stories* in 1933; he was the first of a series of editors (and authors) who would emerge from fandom. His major accomplishment was the creation, with Gernsback, of the first nationwide fan organization, the Science Fiction League. In 1936 Gernsback sold *Wonder Stories* to Standard Magazines, where it was retitled *Thrilling Wonder Stories*; a couple of years later it got a companion magazine, *Startling Stories*. Their editor, another youthful fan named Mort Weisinger, became known for the ingenuity of his plotting and the way his fertile mind rolled out story ideas for his authors; he became more famous later as managing editor of *Superman Comics* and a prolific article writer.

The new editor at *Astounding* in 1933 was F. Orlin Tremaine. He was looking for good stories like the space epics of E. E. Smith (now known to his fans as "Doc" Smith), and serialized Smith's *The Skylark of Valeron* in 1935. He also wanted bold new ideas for a series he labeled "thought-variant stories." And he published the work of a young writer who had been appearing in the other

magazines; under his own name, John W. Campbell, Jr., he rivaled Doc Smith for popularity in the space epic tradition, and under the pseudonym of Don A. Stuart, he began to write a new kind of story, gentler, more sophisticated, more concerned with philosophy and the behavioral sciences than the physical sciences and technology.

In 1937 Campbell was named editor of *Astounding Stories*. He became a new kind of gatekeeper: he worked with writers, encouraged them, gave them provocative ideas, helped reorganize their plots, demanded revisions—and through personal conversations, long letters, and stimulating editorials created a climate of intellectual excitement. Campbell made science fiction over in his own image.

VIII.

Isaac Asimov has written that Campbell "de-emphasized the nonhuman and nonsocial in science fiction. . . . Campbell wanted businessmen, space-ship crewmen, young engineers, housewives, robots that were logical machines."⁷ Elsewhere Asimov said that Campbell wanted stories in which the science was realistic, stories that represented the scientific culture accurately.⁸

A character in Anthony Boucher's *roman à clef*, *Rocket to the Morgue* (1942), identifiable as Robert Heinlein says about an editor identifiable as Campbell: "Grant your gadgets, and start your story from there. In other words, assume certain advances in civilization, then work out convincingly just how those would affect the lives of ordinary individuals like you and me. . . . To sum it all up in a phrase of Don's: 'I want a story that would be published in a magazine of the twenty-fifth century.'"⁹

Pragmatic, provoking, more at ease with ideas than with people, Campbell made his vision of science fiction into reality. He took ASTOUNDING STORIES and made it over into ASTOUNDING SCIENCE FICTION, then Astounding SCIENCE FICTION, *astounding SCIENCE FICTION* and finally *Analog Science Fiction-Science Fact*. It was his influence, and the influence of the writers to whom he could communicate his vision, that created what has since become known as "the golden age of science fiction."

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1. For this reason John W. Campbell once remarked that all other fiction, including the mainstream, was a sub-category of science fiction.
2. *Times Literary Supplement*, Oct. 25, 1963.
3. In *Science-Fiction Studies*, Vol. 4, Part 3, November 1977, Darko Suvin calls popular literature "paraliterature," distinguishing it from "higher" or "canonical" literature that is officially approved by the upper class.
4. It was a period when virtually all authors (and many editors) used three names.
5. Brian M. Stableford, in *Foundation 10*, describes an earlier use of the words in William Wilson's *A Little Earnest Book Upon a Great Old Subject* published in 1851, but Gernsback's invention was the meaningful one.
6. Frederik Pohl's working definition of science fiction when he was editor of *Galaxy*, he has said, was a story he could publish in the magazine without having too many readers cancel their subscriptions.
7. "Social Science Fiction," *Modern Science Fiction*, edited by Reginald Bretnor, New York: Coward-McCann, 1953.
8. "The History of Science Fiction from 1938 to the Present" (film), The University of Kansas, 1973.
9. *Rocket to the Morgue*, New York: Duell, Sloan & Pierce, 1942.

THE SECOND SOLUTION TO EXPLORING CARTER'S CRATER (from page 63)

A familiar theorem of plane geometry says that if a right angle is drawn inside a circle, with its vertex on the circumference, its sides must intersect the circle at the end points of a diameter. Therefore the distances of 5 and 12 kilometers are the sides of a right triangle. Applying the Pythagorean theorem, we find that $5^2 + 12^2 = 13^2$, therefore the crater's diameter is 13 kilometers.

"By the way," said Ms. Jones. "We both know that CARTER and CRATER are anagrams. It just occurred to me that there are two common English words, one hyphenated, that are other anagrams of CARTER."

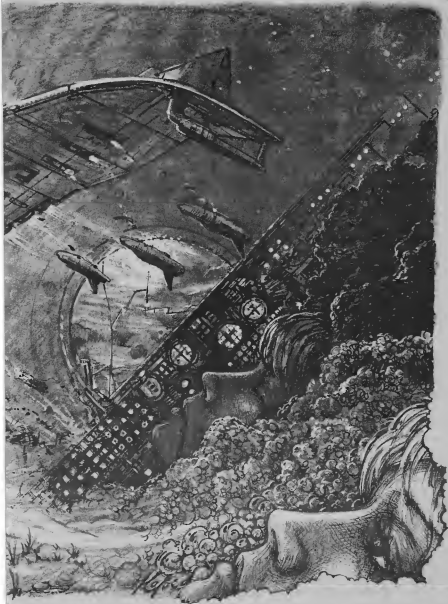
What words did Ms. Jones have in mind? (See page 111.)

IN THE COUNTRY OF THE BLIND, NO ONE CAN SEE

by Melisa Michaels

art: Karl Kofoed





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Allyson Hunter lay nestled in her protective foam, listening to the howling storm outside. She looked like a fragile china doll packed for shipping. The fragility was deceptive. Pale, perfect skin; wide, sky-blue eyes shaded by wary lashes; pink-tinged, high-boned cheeks—but under the china perfection was something sterner and stronger than china dolls. Her eyes glittered like ice. Her mouth was set in lines of habitual determination. Even the casual elegance of her posture was as dangerous as a coiled spring. She waited.

She couldn't see past the foam to tell how her sisters were, and there was nothing she could do till it melted but wait and listen. At least there was no fire; the pilot must have jettisoned the fuel pods in time. Otherwise the foam would have melted within seconds of impact, to give survivors the best chance of escape. In the absence of fire it took several minutes, to ensure an adequate, enforced rest period and decrease the chances of severe traumatic shock.

Old as the skimmer was, it was still a good craft. There'd been no guarantees either way. If they hadn't gone off-course, if the sandstorm hadn't come up . . . She shivered, listening to the screaming wind. Outside the skimmer's hull the fine red Martian dust raged against metal. Allyson had seen junk craft brought in after a sandstorm. The skimmer would look newly polished, scoured of all paint and identifying markings. Like a huge, winged mirror.

At least it would help the search craft find them. Assuming any pilots dared bring search craft out over the high desert after them. Against the threat of sandstorms, they might not.

The skimmer had been doing fine—the pilot called back to say the radio was out, and to ask if Allyson or her sisters had per-

sonal coms that might be affecting the directional finders—but they'd been floating soft and easy in the terraformed Martian atmosphere like a beautiful big blue bird. And then the sandstorm hit.

It must have come out of the east, behind them. One moment they were gliding silently over the Martian plains, and Allyson was just about to ask Kim if it didn't look a lot like high desert down there; maybe they were more off course than the pilots realized. . . .

Then the skimmer bucked and dived and she had time for nothing but strapping in, hanging on, and hoping. One of the pilots shouted a warning, but his words were lost in the screaming wind. The pilots fought it as best they could, but they hadn't a chance. Even in a modern craft they couldn't have bucked those winds.

One last stomach-churning dive . . . the wrenching sound of metal against rocks . . . a brief ear-shattering wail as the skimmer's starboard wing ripped off . . . a tumble of red and metal and breaking . . . and the silent, soft crash foam spilled out and built up around Allyson, enveloping her before the skimmer was still.

Since then, only the sound of the wind, and waiting. At first she called to her sisters, but neither they nor the pilots answered. There was nothing more she could do. The skimmer was canted at a weird, impossible angle and it shook now and then with the fury of the winds, but seemed overall steady. They must have landed on rocky ground, but at least not hanging over the edge of a crater or chasm. The pilots were good; if they had any choice in landing places, they'd have taken the best available. But they probably hadn't been able to see through the sand.

If only they or her sisters had answered her calls! She was afraid to call again, now. Her sisters should be protected by the same crash foam that saved her. If it had failed . . . she didn't want to think about that. Safer to think of the pilots, strapped into their cockpit seats. There were a dozen reasons why they might not have answered; they might not have heard her. Or they might be injured. Or it might not have occurred to them that their silence would frighten her.

They thought of her and her sisters more as furniture than people. Cargo. They'd even said that, and then stared at each other with their dark shadowed eyes, and one of them had smiled and said with polite indifference, "Excuse me. I mean clones." Because they knew she was listening. So they knew she had some

feelings, anyway. But they still might not think of her now.

"Don't ever forget what you are; no one else will." That was one of the earliest lessons of her childhood. "Nobody else is going to forget for a second; so always be one jump ahead of them. If you're ever to be accepted as people, you'll have to act twice as human as natural-borns; and that only in the ways they respect. No human frailties. Just strengths."

She could almost hear Barbara saying that. And she remembered the first time she'd heard it. Allyson, Kim, and Rebecca were very young; they came in crying from some encounter with the local natural-borns, and listened patiently to that lecture from Barbara. Rebecca had cried, "We can't *do* that! You don't know . . ."

But Barbara interrupted, with that soft, sad smile that looked like a mirror of them thirty years from now, and said, "Rebecca. I know exactly what you can do, and what you can't do. And I know how hard it is."

None of them understood, then, how true that was. But later, when they understood genetics, they began to guess. And later still, they knew how much of it was more determination than truth. But they had inherited Barbara's determination, and it stood them in good stead.

It was only by accident of nature, or lab procedure, or some unknown that they had been allowed to live at all. When they were scheduled for cerebral death, their EEGs were automatically checked; and they showed the strange, doubled pattern of potential espers.

Even clone espers were needed to guide and communicate with the starships on their long voyages, so they were spared. The process was not yet then sophisticated enough to determine how strong their latent talent was, or they still would have been destroyed; since as it turned out the talent was weak at best.

But they lived. Clones with the same level of talent were now automatically murdered. The testing equipment had been considerably refined. But Allyson and her sisters lived. And Barbara, their donor-sister, the woman whose genes they carried and who had fought for the right to raise them as her children once their right to live had been established, had instilled in them her own fierce horror of the entire cloning industry as it was used today.

Because it led to questions like: why bother protecting endangered species? Just clone some extras. And why not indulge in dangerous, deadly pastimes? Sunjamming and high-diving and race-driving and all the other risk-filled enterprises man's

sensation-hungry mind could conjure. It was no more risk than driving a car was a century earlier. If you got mangled, your clones would supply new body parts. If you died, you died. And if you were lucky, you were one whose brain could be transplanted into the body of one of your clones and you'd be immortal!

But your clone wouldn't. He never had a chance. And nobody thought twice about it; they were only clones, after all. Destroy one, make another. No problem. It wasn't as if they were real people, after all.

So Allyson and her sisters spent their lives trying to be real people; what they among themselves called natural-borns. And they were reminded, every day in a dozen little ways, that they weren't real people. Everything about them was stamped "clone." Their IDs, their credit cards, even their bodies. At least that was on the soles of their feet, where people couldn't see it all the time. But it was there. And it was like being a carbon copy of a real person; a copy okay for certain functions but not nearly as good as the original.

She should have expected Frank and Todd Lewis's reaction when the three of them came into the little flight office with their request that the brothers fly them and their skimmer to Viking's Rest. Three identical, carbon-copy women; their sky-blue eyes identically wary; their faces identically tense; even their clothing and sun-burned hair identical—they didn't have to show their IDs to be known for what they were when they travelled together.

They dressed alike as a gesture almost of defiance. Natural-borns never noticed the freckles on Kim's nose; or the way Rebecca's hair stuck up in a little cowlick in back; or that Allyson was always the one who took charge. They just saw three identical women, and called them clones. All interactions were governed by that. If the three of them dressed alike, it was like a shout of pride. They made no effort to conceal what they were; and they expected the reactions they got.

But when Allyson first saw Frank and Todd Lewis she thought, just for a moment, that they were clones, too. Heart in her throat, she stared with wild unexpected hope at their identical faces—and immediately realized she was wrong. They were too comfortable, too confident, too secure. Nothing stamped "clone" could be so self-assured. So proud.

She knew at once why their shadowed eyes went narrow with unease when they saw her and her sisters. Still, it hurt. She said, before they could, "You're twins! How fascinating; I've never met

identical twins before."

One of them lifted an eyebrow and both of them smiled. It wasn't a friendly smile. If she'd thought she could alleviate their dislike by recognizing its cause, she was mistaken. They were no more pleased she could tell they weren't clones than they would have been if the skimmer could, and no more concerned for her feelings. She wasn't a person. She was just a clone.

She sighed and shifted in the crash foam, trying to get free of a particularly binding safety belt. The wind was definitely abating now, and the foam was receding. In a few moments she would be free to see how the others had fared in the crash.

She was working her way out of the safety harness when the door from the cockpit opened and one of the pilots stepped through. He towered over her seat next to the doorway, his long frame bent a little to keep from bumping his head. There was something wild and terrible in his eyes as he surveyed the cargo hold, but his voice when he spoke was casual and steady. "You all right?" he asked.

"I am," she said. He could see past the foam to where her sisters were strapped in their seats. She kept her voice steady and met his eyes as she asked, "Are my sisters alive?"

He glanced at her and then past her, over the foam. "One is," he said. His voice was unexpectedly gentle. There was something like fear or terrible pain in his eyes. "I can't tell about the other. Here, let me help you out of your harness. Then you can check on them. I've got to get my brother out; he's hurt." He bent over the foam to release Allyson's straps, touching her body as indifferently as he would a box of cargo. In that moment she hated him. But it showed only in the darkening of her eyes.

"There's a medikit in the compartment in front," she said.

"I found it," he said. When her straps were loose he stood back, surveying the odd angle of the deck and the melting foam. "What a mess," he muttered, more to himself than to her.

She was disentangling herself from the straps, trying to stand up, and she spoke without thinking. "You've been in worse," she said.

Those implacable brown eyes returned to her face, impaling her. She stared, oddly frightened. "How would you know?" he asked.

She managed a shrug and a tentative smile. People reacted even worse to espers than to clones. Any sign of talent was always taken for full telepathy. "A guess," she said. "You're a pilot

with quite a reputation. You don't get that without a few mishaps along the way."

He watched her a moment longer before he answered. "Yeah," he said, and suddenly all interest in her was gone. "You're right. See to your, um, sisters, okay? If you need the medikit, let me know. I'll be in front; the storm's just about over, and I want to see if we can get out of here and get some signal out for the search planes. I don't suppose this crate has an ADS?"

"Autodirection sender? No, I don't think so."

"It figures." He turned away, but on impulse she caught his arm to stop him.

The words were harder to phrase than she'd expected. But she'd wanted all her life to say them to someone else; and his indifference angered her enough to say them: "Which one are you? I can't tell you apart." She could, but he had no way of knowing that.

The sardonic twist of his lips showed he knew exactly why she asked. But he said simply, "Todd," and turned away. So he was better at insults than she. Because he didn't bother to ask which one she was. He didn't care.

"Allyson?" With a guilty start, she let Todd go and turned toward the opposite wall where her sisters sat in the melting foam. Rebecca was awake and watching her, her eyes puzzled. "Allyson, are you all right?"

Todd disappeared into the cockpit and Allyson slipped and slid across the foamy floor to Rebecca's side. Near Rebecca, Kim sprawled limp and lifeless in her harness. The side of her head was covered with blood. Half her face was ruined. The other half was still a perfect replica of Allyson's and Rebecca's to the last delicate detail. The one remaining china-blue eye stared in blind consternation at the opposite window, sanded to frosty luminescence by the storm outside.

Allyson set her teeth and forced herself to lift one of the limp white wrists to check for a pulse, but there was really no question. Still, she checked the carotid artery before turning away, blinking back tears. Rebecca watched without comprehension.

"I'm okay, Rebecca," Allyson said. "Are you?" Her voice was thin and wavery, like a child's. And her throat hurt.

Rebecca put one hand to her head. "I think so," she said. And then, with sudden realization, "Kim? . . ."

"She's dead," said Allyson. Rebecca closed her eyes, her face pale. Allyson silently released her safety straps. Rebecca was al-

ways quicker to tears than Allyson. Her chin trembled. Allyson pushed the straps aside and put her arms around her sister.

"Those damn pilots," said Rebecca.

"It wasn't their fault, Rebecca," said Allyson. "Now, come on. One of them is hurt; we ought to see if we can help."

Rebecca sighed and wiped her eyes. "You're right," she said, rising. She didn't look at Kim. "Okay," she said, steadying herself against a projecting security bar. "I'm ready; let's go."

They tried the cargo bay first, but that was blocked with dust or some other obstruction, and wouldn't budge. They would have to get out through the cockpit.

Todd and Frank were still inside. Todd had awkwardly covered an abrasion on Frank's temple with spray bandages. They were working on the outside door, which appeared to be drifted shut. They pushed it open an inch or so, and a thin trickle of red dust filled the bottom of the crack.

"Need help?" asked Allyson.

Todd glanced up, startled. The gaunt lines of his face seemed hollowed and pale. The dark eyes searched her, and for a moment she thought she saw something questioning, something pleading in his gaze; then it snicked shut like a door closing and suddenly he was a person and she was furniture again. He shrugged. "Why not?" he said.

Together the four of them wrenched the door open and climbed out over the drift that blocked it. While the others stared in dazed surprise and growing horror at their surroundings, Frank stood by the door, waiting. He kept turning his head from side to side with nervous little gestures like a fox in a cage, his face white, the skin drawn taut over the bones of his cheeks. He didn't say anything, but Allyson realized with a start of unexpected sympathy that he was now blind.

Beside him, Todd stood with one hand still on the door as if for support, and said slowly, "It's a crater, Frank. We're inside the damn thing."

"Inside?" Frank moved his eyes as if he could see, but they were flat and lifeless. "Is it deep? Narrow?"

"Not deep," said Todd, "but too damn narrow. I don't know how visible we are, but I'd say not very. And even if we had an ADS, the signal would bounce off the walls and never get out."

"Oh." Frank thought about it for a moment. "Well, you'd better get busy," he said. "Show the clones how to build solar stills; and we'll need shelter. If you bring me whatever electronic equipment

you can find, including that damn radio, maybe I can build us some communication equipment."

"We already know how to build stills, Mr. Lewis," Allyson said. "We're Martians, too, you know. Look, why don't you sit down and let my sister have a look at that head wound while your brother and I get the supplies out of the skimmer."

"I'm all right," said Frank.

"My sister's a doctor," said Allyson. "I think you should let her take a look at your injury. Maybe she can't do much, with the equipment at hand, but please let her try." She ignored Todd's startled eyes. Why the hell were people always so surprised Rebecca was a doctor? Todd and Frank were identical twins; surely they wouldn't believe, as so many people did, that because they looked alike the clones were interchangeable.

"Your sister's a doctor?" said Frank. He turned his head again, searching his private darkness, perhaps looking for hope.

"That's right," said Rebecca, "I am. Here, let me help you find a place to sit; I'd really like to take a look at that wound, if you'll let me."

Sunlight glittered off the sanded hull of the skimmer. The air smelled like hot dust and herbs bioformed from Earth varieties for the Martian desert. Allyson reluctantly met Todd's eyes and waited.

He shook himself and glanced from her to Frank and back again. "Sure, let her look at it, Frank," he said. Hope burned like fire in his eyes; Allyson realized with odd disappointment that he wasn't going to comment on the clones' differences. He was wrestling with some personal demon and didn't care about the clones. They were cargo. In a crash, you make use of whatever cargo turns out to be handy.

Even the usual stupid questions would have been better than indifference, she thought, and wondered why it mattered.

"You," Todd said, "could help me get the supplies."

"I have a name," she said, and immediately wished she hadn't.

"Most of us do," he said. Those sardonic eyes raked her again and she blushed.

"Let's go," she said stiffly.

He smiled; a thin, unexpectedly bitter smile; and led her back into the skimmer. While he disconnected the radio and collected what other electronic gear he could find, she sorted through the supplies in the cockpit, piling undamaged goods on an emergency blanket and tossing the useless things aside. They worked in si-

lence, and she was careful to avoid his eyes.

"There's more food and water in back," she said at last. She hesitated, thinking of Kim. She didn't want to face that awful apparition again; but they might be here for days. They couldn't leave her where she was. "And my sister," she said with difficulty. "We'll have to," she swallowed, "bury her."

"I can do that," he said.

She looked up, startled, and met his eyes. They were unexpectedly kind; but there was still a cold, determined barrier there. He held himself apart from her with a fierce, blind rejection that was like a physical pain.

"That's kind of you," she said, "but I can manage."

He shrugged. "Whatever," he said, and his expression went flat again; distant and reserved, as if a fog obscured him from her.

She wanted to say, *Clones aren't any different from identical twins, damn you!* But she bit back the words and swallowed a painful lump in her throat. Because they were different. Identical twins were natural-borns. They were identical to each other, but carbon copies of nobody. And they'd never been thought of as organ banks. There was nothing to protect. You could recognize them as people and still not be a murderer; because none of them were slaughtered to provide organ replacement for others.

The tattoo on her foot had branded her soul, but she knew why it had to be there. The first use of clones had been for replacement parts; it was still their main function. Those few who were permitted to live, their cerebrums intact, could not be considered human. Because what would that say about all those thousands whose cerebrums were destroyed?

So it made no difference how many scientific facts people knew; or how much genetics. Every high school student knew that on a genetic basis there was no difference between clones and identical twins. If anything, the twins were stranger; it was perfectly well-known what formed clones. You take the nucleus from a cell, put it in an egg from which the nucleus has been removed, and presto! you have the equivalent of a fertilized egg; a diploid cell or zygote, ready to grow and divide and form an embryo.

But it still wasn't known why identical twins sometimes occurred. You take two haploid cells, put them together and they're a fertilized egg or zygote; but why do the two cells of its first division sometimes separate from one another and develop into two independent embryos? Nobody knew, and it wasn't really important. Because they were natural-borns, and nobody questioned

their right to live.

But clones—people created in the lab, by artificial means—that was different. They were replacement parts. They'd been created for replacement parts, and the first ones permitted to live had been so grateful for the gift of life they'd set the stage for all the discrimination to follow. Of course they didn't demand their rights as people; that would be saying their benefactors were murdering a person every time they destroyed the cerebrum of a cloned embryo.

Allyson smiled thinly, as she always did when she reached that point in her philosophical fury. Maybe it wasn't really much different from abortion. The only real difference was that the cloned embryos were created intentionally for "abortion." And the real question was, would it make any difference to the social attitude if the sex act were somehow involved in the creation of clones?

"What's funny?"

She came back to the present with a start, to find herself staring into Todd's dark, watchful eyes. His face was pale, and there were hard lines of tension around his mouth and eyes.

"Oh, nothing," she said. "I was just thinking." For a moment her face, usually rigidly guarded, retained a look of vulnerability or of terrible sorrow; then, as she focused on Todd's hooded gaze, the lines of her expression slowly tautened. The straight, stern set of her lips returned; and the startling intensity of her eyes. "Are you all right, Todd?" she asked. "You look pale."

His own expression hardened. "I'm fine," he said. Their words hung between them like a glittering facade on a broken building; the tone and content bore no relation to their expressions. It was as if four people sat there; two friends speaking, and two wary strangers watching. "While you're in the back," he added in the same friendly tone, "why don't you see if you can find some clear plastic sheeting for the solar stills? I'm gonna get this stuff outside and see what Frank can do with it."

She hesitated. "He may not be able to," she began.

"It'll give him something to do," he said without meeting her eyes. It was quite a concession; he'd explained a behavior, as if she were a normal person with some stake in what happened. But before she could respond he added impatiently, "Go on and find some plastic. We're gonna need all the water we can get."

"Okay," she said. "Hand me the pliers; I'll need them to get into the emergency supplies." Her eyes were as cold and gray as a winter sky.

He kept his hard-shadowed gaze on her as he reached out with the pliers, holding them flat on his palm so she could pick them up without touching him. But she had to look down at his hand to find them, and paused with her hand half-extended, staring.

It wasn't quite a surprise, but it was a shock. She had guessed something was wrong. She hadn't guessed how wrong.

When she didn't accept the pliers he glanced down at them, then looked back at her face, his eyes widened with surprise and something like fear. "Oh," he said, and glanced at his hand again, then drew it back. He made an ineffectual effort to wipe the sticky red stain from their handles, but it was too late. "It's just a scratch," he said, "a little cut. It bled a lot. . . ." He paused, watching her. His face was shiny with sweat. But it was early morning, and still chilly outside.

She waited. Her eyes revealed nothing. He offered her the pliers again. "I'm all right," he said. "There's nothing to worry about."

"So you're a hero," she said. The words were as cold as her eyes.

He shrugged. "Think whatever you want to," he said. "Just get some plastic from the back, okay?"

"The only human left, so you have to stay in charge, right?" She took the pliers and turned away. "For God's sake don't trust a clone; they're not real people."

"Whatever," he said. "If you need help later with your sister back there, let me know."

She whirled on him in a fit of fury. "You won't *touch* her," she said. "Do you hear me? You won't so much as *look* at her! I can handle it by myself, or with Rebecca, and I don't want your filthy natural-born hands on her; she can be spared at least that!"

He stared. "Fine," he said mildly. The sardonic, mocking smile was still in his eyes, but fogged or faded as if by a sheet of scratched acrylic between his face and hers. She turned away from him with a bitter feeling of defeat.

When she got outside with the plastic and the rest of the emergency supplies, Frank was settled happily in the shade of a large rock, fiddling with the electronic equipment Todd brought him. Todd and Rebecca were working on the other side of the skimmer, draping parachutes from the wing and weighting them against wind with rocks and soil. If another sandstorm came up, they'd have to get back in the ruined skimmer; otherwise, the wing would make a good shelter. With a fire under it, they might even manage to stay warm at night.

Todd and Rebecca were doing well enough by themselves. Ally-

son deposited the plastic and supplies in a heap near the skimmer's door and climbed back into the cockpit. Just in case another sandstorm did come up, it would be a good idea to have Kim's body somewhere else. And in spite of what she'd said in anger to Todd, she didn't think Rebecca would be much help with that task. She'd be fine if it were a stranger's body. But not Kim's. Not her sister, with half her face caved in.

Allyson had always been the strongest of them, both physically and emotionally. But even her strength didn't quite match her task. The three of them had always been very close. They had to be; they had no one else. And they were almost identical. So what Allyson had to move was not just the body of her sister, but also the image of herself discolored and distorted by death.

She set about the task reluctantly, but it had to be done. By the time she had Kim's body out the cockpit door tears streaked her cheeks and she was shaking uncontrollably. But she resolutely grasped Kim's wrists and dragged her as far from the skimmer as she could. Only when she was out of sight beyond a low ridge of jutting rocks did she sit down with her head in her hands to cry.

At least, she thought as she piled rocks over the broken body, Kim was free now. She died too far from civilization to be whisked into hospital, taken apart like a mechanical thing, and moved piece by piece to an organ bank or other people's bodies.

Oh, true, the same thing would happen to anybody who did die within civilization's reach. It wasn't only clones who were viewed as spare parts of the moment of death. Especially on sparsely populated Mars, nobody was 'wasted.' And that was as it should be. Still, for a clone, the idea of being used as spare parts any time held a peculiar horror.

It seemed oddly fitting that Kim should, instead, have a lonely burial under the rocks and sand of the desert, with only another clone to bid her goodbye. Allyson pushed the last rock into place with a sad satisfaction and settled back on her heels to rest.

Her hands and face were dusty and streaked with tears and sweat. The red dust was everywhere. She could even taste it, along with the sticky salt taste of tears. She wiped her cheeks with the back of her hand and sat for a long time beside her sister's shallow grave, staring with unseeing eyes at the hard red rim of the crater around her. The desert air smelled of dust and pungent herbs. And there was silence, as far as forever. It was a good place to be buried. It might even be a good place to die.

When Allyson returned to the skimmer there was a peculiar

light of defiance in her eyes. She set silently about digging holes for solar stills, and when Rebecca and Todd joined her she barely glanced at them.

"I buried Kim," she said.

"We built a shelter," said Todd, as if it were of equal significance. Perhaps it was.

"How's Frank?" she asked without much interest.

He was sitting within hearing distance, but too engrossed in his electronic puzzle to hear what they said. He seemed oddly unconcerned by blindness. Most people in his place would have fought it. He accepted it, and was learning already how to work within its boundaries.

"I'm worried about him," Rebecca said quietly. "The optic nerve is under pressure, obviously. If we don't get him to medical facilities in time, it may atrophy—"

"He'll be all right," said Todd.

Allyson looked at Rebecca. "'Fight when you can win,'" she said. "'Accept the inevitable when it is.'" She smiled, a sad little smile that twisted her lips and barely touched her glass-blue eyes.

"What's that?" asked Todd. "Sounded like a quote." He had paused in his work and settled back on his heels, watching her. His eyes were sunken, shadowed places in a hollow face. She was startled at the hopelessness there.

"Just something Barbara used to say," she said. "Are you all right?"

"Barbara? Who's that?" he asked.

"Our original sister," said Rebecca. "The one we're copies of." She frowned at him. "You do look pale," she said. "You could be in shock; you should rest."

He shook his head. "I'm okay," he said.

"He's a hero," said Allyson. Her voice was harsh, her eyes cold. But she caught him when he fell. And was surprised at the answering note of tenderness she felt when he stared up at her with pleading eyes.

"Allyson," he said, and she was so startled she barely heard the rest of what he said. *He knew all along! He could tell them apart!* "For God's sake, tell Frank I'm all right," he whispered before those splendid, pain-wracked, frightened eyes slid shut.

And then she understood. She stared at Rebecca, her own eyes dark like storm clouds. "He is a hero," she said. Her voice broke. "Oh, please," she whispered, "will he be all right?"

They carried him to the shelter he had built with Rebecca, and

put him on a blanket in the shade. It took them a moment to find the injury; he'd bound it clumsily with spray bandages to slow the bleeding. It was an awful, deadly puncture just below his ribs. Rebecca sent Allyson to get the medikit and water while she tried to make him comfortable and examine the wound.

Allyson knew very little about medicine and, as a rule, cared not at all. She brought the water and kit and sat down beside Todd, but her fear was so distracting, Rebecca sent her away again. So she wandered out to the rock Frank sat beside with his electronics.

The sun was beginning to encroach on his little island of shade. He heard her coming and lifted his head, blind eyes as private and shadowed as Todd's. "It's Allyson, Frank," she said. "How're you doing?"

"I'm fine," he said. "I always said I could put one of these things together blindfolded. Now I've had a chance to prove it. And I think it's gonna work! It's almost done."

"Then we can call Umbra Landing!"

"If we can get the signal outside this crater," he said. He turned back to his work, his fingers moving among the wires as confidently as if he could see. "How's Todd?" he asked casually.

She stared. "He's," she said, and paused. Frank waited, his shoulders hunched a little against whatever news she might bring him. He knew something was wrong. Todd thought he could keep knowledge of his injury from Frank, but Frank probably knew from the start. All Todd succeeded in doing was keeping it from the clones, who could have helped him. "He'll be all right now," she said. "Rebecca's taking care of him." And heard in memory her own terror whispering, *Please, will he be all right?*

They sat in silence for a moment while Frank's busy fingers traced patterns among the wires. "He didn't want to scare me," Frank said. It wasn't a question, but she answered it anyway.

"No."

Another silence. Then, "D'you do that? It's just like being identical twins, isn't it? D'you find yourself doing stupid things to protect the others?"

She nodded, forgetting he couldn't see her. "Sometimes from dangers that aren't even real," she said.

"Yeah." He put his tools down and rested his hands on the radio. "You know," he said slowly, "identical twins are really clones. Accidents of nature, but one of us is a clone of the other. I remember wondering in high school why they were so careful not

to use that word when they described the genetic process that caused us."

"For the same reason they're so careful always to use it with us," she said. The sun was very hot on her back. She thought about getting up to move into the shade, but it was too much trouble.

"I know that now," he said. "I guess we're just lucky the first identical twins happened a long time before they knew how to do organ transplants."

She picked a branch from a shrub beside her and twisted its leaves in her fingers till the sharp odor of its sap filled the shimmering air. "What will they do," she said, "when they figure it out?"

He turned a sardonic smile to her, so similar to Todd's it wrenched her heart. "They've figured it out, a long time ago," he said. "They don't know what to do."

She sighed. "Is the radio fixed?"

"I think so," he said. "You'll have to take it up on the rim, to get a signal out. Is it climbable? It's got to be line-of-sight, so if you can't get it high enough we'll have to wait for a search craft."

"To fly right over us," she said. "I can take it up on the rim. How does it work?"

"Push this," he said, "and pray. Here's the microphone."

She took the awkward bundle in her hands and paused, watching him. "You'll be all right?" The lines of his face were different from Todd's. Not as sharp and distinct.

"I'm fine," he said.

Still she hesitated. "We're all heroes," she said. "We keep protecting each other from our own demons, so half the time we don't even see each other's."

"And if we do," he said, "we still can't touch them."

"No," she said, and closed her eyes. "No, we can't touch them." Abruptly she jumped up, clutching the radio, and ran. He couldn't see her tears, but she wouldn't cry in front of him anyway. She had never in her adult life cried in front of anyone; she wasn't going to start now.

She returned empty-handed through the shimmering heat of the afternoon. The skimmer lay like a broken mirror at the base of the rim. There was no sign of life. Rebecca and the twins must have taken refuge beneath the shade of the wing. Allyson sat down to rest on the rocks just above the skimmer, and stared for a

long while at the emergency blankets guarding the little shelter under the wing, before heat and thirst finally drove her down the slope.

Her face was streaked with dust, her hands and knees scraped and bloody from the rocks. But in the shade of the shelter, only her glittering eyes were visible. "The radio worked," she said. "The forecast's okay, so there should be a rescue craft here by nightfall."

Rebecca handed her a cup of water. Frank lay beside the skimmer next to his brother. None of them spoke. Her eyes still blind from the sun, Allyson couldn't tell if the twins were awake. She accepted the water with trembling hands, squatted just inside the shelter as if prepared for flight, and drank sparingly, watching the darkness where the twins lay.

She was afraid to speak. She rested the cup on her knees and held herself still with a terrible effort. The silence was like a living thing around her. Out in the desert sun, that had seemed like a blessing. Here it kept her poised, tense, listening. If he were dead they would say it, surely. *Oh, please, will he be all right?*

A pebble scraped in the darkness. Her eyes, dark, burning pits in her sunburned face, were beginning to adjust to the shadows. She waited, staring with a frightened and frightening intensity at the darker shadow that was the twins. Beside her, Rebecca took the forgotten cup from her and sipped from it, looking over its rim at the twins.

Just when Allyson had decided it never would, the shadow moved, separated, became two people. One of them lying with his bandaged head on a folded blanket; the other pushing himself up on one elbow to smile his sardonic, guarded smile at her.

It's one thing to make the decision never to cry in front of anyone. It's quite another to stick to it. She didn't know how she got across the little shelter and into Todd's arms. She was just there. And it was where she belonged.

"So," he said softly. "You're a hero, too."



THE LAST GOTHIC

by Jon L. Breen

art: Frank Borth



Mr. Breen was born in Montgomery AL some 35 years ago, but has lived most of his life in Southern California, where he is now a full-time librarian for the Rio Hondo College of Whittier CA. He's been selling regularly to Ellery Queen's Mystery Magazine for over 11 years, but this story is his first sale to a science fiction magazine.

Day by day, Jorge Braun felt the death of fiction drawing closer. And it appeared that the gothic novel was to be the next casualty. Since 2005, almost fifteen years ago, all of them had been written by Edwina, a talented, creative, aging computer with twenty pseudonyms. The dwindling readership had forced the last of the human writers in the genre out of business. Once built, the computer was able to turn out novels very cheaply, demanding no advances, no royalties, and until recently, very little editing. As long as Edwina kept producing, the massive Sheldrake Publishing conglomerate would keep publishing the novels for the small group of readers that remained, but any large outlay to refurbish the machine was branded non-cost-effective by the company's accounting department.

Balefully regarding his boss across a wide, gleaming, clutterfree desk, Jorge made one last appeal. "Mr. Sheldrake, I'm not convinced you'd lose money bringing Edwina up to snuff. Better sales and a resurgence of interest in the gothic might make up for it. But even if you did, wouldn't it be worth it to keep a whole category of fiction from dying? There are millions of elderly ladies out there who need their gothics."

"Jorge," said Sheldrake—after all these years, he was still pronouncing it 'George'—"you've been a fine fiction editor for us, the finest fiction editor we've ever had."

Jorge didn't even try to suppress a groan. Sheldrake sounded like Henry Ford praising a blacksmith.

"You're a young man yet, Jorge, and I think you've outgrown fiction. And anyway, our fiction output will diminish year by year, and with it your responsibilities. I'm prepared to offer you a job in . . ."

"I love fiction, Mr. Sheldrake, and if fiction goes down, I go down with it."

Sheldrake sighed and leaned back in his chair. "Very well," he said. "Is Edwina really doing so badly? I haven't heard any complaints."

"Well, there are more and more anachronisms."

"Few readers notice those, and a little simple patchwork reprogramming should take care of that. You do have a budget, you know, Jorge . . ."

"A million dollars a year. Not much I can do with that. It's not just the anachronisms, though they're a symptom. I think Edwina is fed up, bored. Sometimes I think she puts in the anachronisms on purpose, to get attention."

"You're telling me you have a bored and willful computer?"

"It's very possible. Edwina is a creative artist, you know, not just some glorified calculator. If you could see the early attempts at computer-written fiction, Mr. Sheldrake . . ."

"I wouldn't know. I never read fiction." He said that with such pride!

"Well, it was pretty bad, ridiculous in fact. But we've come a long way. The computer fiction-writer has a great deal of creative latitude. That's why our computer fiction has become so popular; it has to be something people can relate to. But with creativity comes personality, ego, consciousness of self, and a potential for mental breakdown. It's not just having the same old elements that's bothering Edwina, though I'm sure she'd appreciate some fresh programming. I think she resents having to write her books under twenty different names instead of signing them all Edwina Nightfall."

"You know why that's necessary. We can't publish twenty books a year under the same byline."

"Yes, I understand that, but Edwina doesn't. I think Edwina is going to go completely screwy, Mr. Sheldrake, if she isn't given a complete overhaul—cleaning, new parts, new programming from the bottom up. If she doesn't get it, she'll just crack up some day, and that will be the end of the gothic novel."

"Very sad, my boy, but aren't there enough gothic novels already? Why, in my youth, back in the seventies and eighties, they seemed to clog the bookstands. I thought there were enough of them to last any reader a lifetime."

Jorge tried to tell him that a fictional form dies if no new writing is done in it. It had already happened to the western and the formal detective novel. But of course it was no good, and an hour later he was back in front of Edwina reading her latest as it came sputtering out. . . .

WHITHER THOU GHOST
a novel of romantic suspense
by Helena Lightcastle

Jorge shuddered. What could be more ominous in a gothic than a punning title? Maybe it had happened at last. Maybe Edwina was rounding that last bend. Jorge braced himself and read on. . . .

The whole journey had about it an aura of foreboding. When the coach had only travelled a few miles from the inn, one of those new-fangled horseless carriages had frightened the horses and it had been all the driver could do to keep the coach upright. Now, as the old stage rattled its way through the mist toward the village of Gootenshire at the foot of Devil's Mountain, at whose top was situated Pomegranate Castle, the autumn air chilled Gwen Dolan as she pulled her cloak more snugly around her shoulders. It was too dark to read the new book she had bought in New York, this so-called novel, *Pamela*, said to be creating a new literary form, but it had not interested her greatly, nor had the *Herald-Tribune*, which recounted in gory detail Wellington's victory at Waterloo and Abraham Lincoln's nomination by the Republican national convention.

Times are surely changing, mused Gwen. Too fast? No. For a new era of women's rights was coming and Gwen longed to be emancipated. If only women had the right to vote, they would surely show those belligerent masculine politicians a thing or two. For the hand that rocks the cradle . . .

The coach lurched to a sudden stop, jolting Gwen from her reverie. Silly to be so nervous, she chided herself—the atmosphere is getting to you, under your skin, into your bones. But the castle, so bleak and forbidding against the October sky, must be quite homey by daylight, and so must this charming little village, nestled at the foot of the sharply rising precipice—Devil's Mountain, they called it. Whatever for? Gwen wondered.

The driver helped her down from the coach. They were in front of the Greyhound station, where Major Hawthorne's man was to meet her. She entered the waiting room, in out of the dark chill, and a friendly voice greeted her.

"Good evening, miss! Welcome to our village!" The waiting room was empty but for the rotund, moustachioed man behind the lunch counter. A warm and friendly man, she sensed. Someone to be relied upon. "I am Charles Evans Happychap, master of the Greyhound station, called Charlie by my friends one and all, and your wish is my command. What may I get you? Something hot to refresh you after your journey? A cup of tea perhaps?"

Gwen smiled. "I don't know if there is time. Someone is to meet me here—Major Hawthorne's representative. For I am

the new governess here at Pomegranate Castle."

Charlie Happychap fairly jumped, and all color seemed drained from his face. He looked at the young lady, so fresh and pink-cheeked and lovely, her long black hair billowing about her shoulders, and he shook his head unbelievably. "No, miss, it cannot be."

"Why, yes." Gwen was puzzled.

"You must not!" he almost shouted. Suddenly Charlie Happychap, with a quickness uncanny for a man of his bulk, darted from behind the lunch counter and ran out into the road. "Come back! Come back!" he shouted after the retreating stage. "Too late, too late," he moaned disconsolately and reentered the cheery waiting room.

"You shall stay here," he said. "You must stay here until tomorrow's stage comes, then leave the village forever. Under no circumstances are you to set foot inside Pomegranate Castle."

"Why, why not? It seems a good job, well paid and rewarding in other ways, the dream of a modern governess. Why should I not go?"

Charlie Happychap would say no more. He plied her with coffee and slices of anchovy pizza and they discussed current events: W. G. Grace's exploits on the cricket pitch, Sarah Bernhardt's farewell American tour, the impending Mexican war, Dr. Johnson's new dictionary. Charlie seemed renewed, but Gwen could not but wonder why he was so adamant about Pomegranate Castle.

A half hour after the coach had left Gwen at the Greyhound station, the door of that establishment crashed open and a tall, gaunt man in chauffeur's livery, his tightly drawn facial skin making a living death's head of his baleful visage, entered the room. Charlie Happychap regarded him with ill-concealed hostility, determination spelled out on his jutting fat chin.

"You shan't have her."

A low, growling voice forced itself painfully through the pale, thin lips of the newcomer. "The master needs a new governess. For the master's young ones."

"And why does the master need so many governesses?" Charlie Happychap demanded.

"To feed the ghost," said the chauffeur, with a ghost of a smile.

Irrationally, Gwen felt herself shiver. Silly to fear this ordinary, simple servant, or his employer, probably a poor unhappy widower with children who must be raised. Still, some clarification seemed called for.

In a firm, steady voice, Gwen asked, "What do you mean, to feed the ghost? What ghost?"

The chauffeur would not answer. He held out a skeletal hand. "Will you come, miss?"

"She will not!" Charlie Happychap interjected.

"Of course I shall!" Gwen retorted, in a voice more decisive and confident than she truly felt. True, she thought, I know practically nothing about this Major Hawthorne, my new employer. But the very name had such a solidity and reliability about it. And where children need a governess, a governess must go. To them is not the blame for the follies and obfuscations of their elders.

She followed the emissary out to the waiting helicopter, leaving Charlie looking sad, his moustache drooping.

The castle was huge—surely no less than a hundred rooms of high ceilings, ornate chandeliers, and artificial cobwebs in every corner. Gwen kept staring above her, as she had at the base of that new Empire State Building that was the talk of Gotham.

The housekeeper's name was Mrs. Dalrymple. It sounded a friendly name, but the stern-faced party that bore it did not encourage girlish confidences with her slightly disapproving, though perfectly civil and correct, manner.

Gwen tried to make a friend of her. "Such a big house. It must be dreadful to keep clean."

"We manage. We have always managed."

"When will I meet the children?"

"The children are away," Mrs. Dalrymple almost snapped, and Gwen thought her cold and rather sinister stare looked almost accusing.

"Where?" Gwen wondered.

"They will not be your concern until they return, Miss Dolan."

Gwen started to say, "Make it Ms. Dolan," but bit it back. Mrs. Dalrymple was of another generation and would not understand. "Will they miss their old governess terribly?"

The housekeeper's stare was harder and colder still. "We

do not speak of the old goveness. Kindly do not mention her to the Major."

Major Hawthorne proved to be a handsome, nervous man of middle age, with a neat military moustache, a tic in his left eye, and a slight limp, his souvenir of the Battle of Shrewsbury. He darted about the room with undirected energy. Gwen detected deep wells of unplumbed depths lurking far beneath the surface.

"Miss Dolan," he said politely, "welcome."

That seemed to be the extent of his greeting. After a moment's hesitation, she asked, "When will I see the children?"

"Day. Two days. When they're back."

"May I ask, back from where?"

"I hire them out as chimney-sweeps," he said. Did she detect a faint glint of humor in this troubled, haunted man? Or of something else?

"Candle," he said, handing her one. Then he gestured to Mrs. Dalrymple, who showed her up the winding circular staircase to her room. The chauffeur walked behind, carrying her satchel.

"And when do I meet the ghost?" she joked en route, her eyes twinkling bravely.

"Soon," said the death's-head, leering.

The walls of the bedroom were lined with paperback books. They seemed to be family products—Reynold Hawthorne and Renata Hawthorne were the names of their multi-colored spines.

"His wife?" Gwen Dolan asked, a tear unbidden in her eye.

"The ghost!" the death's-head rasped at her and left her there alone, the small satchel of her worldly goods at her feet.

She slept in the large bed fitfully until four-thirty. A faint sound of clickety-clack had awakened her. From the next room, through the connecting door? She opened it and stole into the room.

In a dark corner, a hunched figure sat at the typewriter, a Tensor lamp illuminating his labors. As she watched, the stack of pages at his left grew, grew, grew. The figure typed as a man possessed. He was hooded, she noticed, and she felt an urge to see the face of this mysterious figure.

Softly she crept up behind him and snatched the mask from his head. The figure rose from the chair with a piercing

shriek and turned on her.

"Governess!" he cried, his face not ugly as she had feared, but young, handsome, tortured. "My new governess!"

"Your new governess? No, Major Hawthorne's new governess. For his children."

"No, no, you are mine. A new governess to torture and terrify. But I cannot do this any more. This is my ninety-seventh gothic. Ninety-seven! Hawthorne, damn him, is rarely here, jet-setting in his damned helicopter and doing Mafia novels and spy novels and, God help us, sex novels! But me, a ghost, a ghost, I do gothics, gothics, gothics. Liberate me! Save me! Burn this castle! Burn it down!"

"You are the ghost?"

"I am."

"I am a governess. The children are my province, and my duty is to them."

"They aren't children. They're midgets. Burn the castle! Save me! Save us all!"

"I cannot, somehow, believe this is happening."

"It is! It is!" He pushed buttons on his table and Gwen heard shrieking and creaking doors and mournful wails and knocking and clanking chains. "This castle isn't haunted. It's dead, played out. If Hawthorne were ever here, he'd know that. A hundred gothics to a castle is the world record, held by some woman with three names. No mere man with two names can equal it. I am tired. I long for rest."

Gwen pitied him but wished that he would not snivel so. He was not a real man, like Charlie Happychap, so solid and reliable and dependable: like the Major, with untapped reservoirs of depth and character pulsating under his brusque surface. Instead he was weak and indecisive.

"Why can't you be strong?" she lashed out at him. "Like Charlie Happychap?"

The face of the ghost twisted maniacally. "Happychap! Don't you know about him? The author of all your problems? But no, of course, you wouldn't know yet, would you? You never know, however obvious it is, that the lovable, helpful, simple, one-dimensional male friend is always the dark, smirking, lurking, mad villain. Why must you be so stupid and helpless, all you damned governesses . . . ?"

"You, poor ghost, are not my kind of man. I've known you for only a few moments, and already I am tired of you."

"I've known you for ninety-seven volumes, and I am tired of you," the ghost retorted, and viciously x-ed her out.

The tape stumbled to a halt, and Jorge felt sure the end had come. But no, Edwina was trying again. . . .

DARK HOUSE OF DARKNESS
a novel of romantic suspense
by Edwina Nightfall

Still not the greatest title in the world, but at least there was no pun. . . .

Helena Brady brushed a stray lock of blond hair away from her eye and wondered if seeing the wanted poster of Jack the Ripper rush past outside the window of the Twentieth Century Limited as it roared through Colorado was some sort of an omen. But how could a job as companion for an elderly lady in the California desert be in any way dangerous?

She had chosen her travelling clothes carefully, not wanting to appear too ostentatious in her first meeting with her new employer. She had selected a knee-length mauve hobble-skirt and a transparent middy blouse with a pattern of tastefully located deathwatch beetles, gleaming white bobby sox with violet spats over pale green Alsatian mukluks, a modest Salvation Army bonnet with pink chin-tie, and a simple bison stole. Completing the ensemble were a dainty little shark's-tooth pendant, a shoulder-strap patent leather parachute bag, a Venus fly-trap parasol, and a Naugahyde riding crop.

Jorge Braun pulled a switch and ended Edwina's agony. The end had come at last, and all that remained was to find some suitable memorial.

When night fell, the towering Sheldrake Building was black against the sky in unaccustomed darkness. One light burned in one window, in memory of the gothic novel.

THE CASTAWAYS

by Jeanne Dillard

art: Phil Foglio



A serious problem faces us with tales such as this one: should we keep secret until the last possible moment that it is an entry in the horrid pun contest, or should we post warning signs, so to speak? On the one hand, some of the surprise will be lost; on the other, some of you would much rather be warned off. What do you think?

Miss Dillard has a B.A. in Russian; She is a native and resident of Florida. She writes SF because she cannot help herself. She originally had no intention of submitting any of her work for publication, but did so at the urging of her best friend, an aspiring (but alas!, unpublished) writer. This is Miss Dillard's first sale. Her friend has not spoken to her since.

Wechter groaned. He turned over slowly, sat up and spat out a mixture of seaweed and sand. His jumpsuit was encrusted with damp sand and lay sodden and clammy next to his skin. He blinked at the dazzlingly bright sun and scowled.

Several yards away, his first mate lay sprawled across the beach, gentle waves lapping at his heels.

Wechter made a move as if to get up and go over to his first mate, but winced in agony and decided it was best to keep his seat.

"Elijah!" he barked. "Elijah!"

The figure stirred.

"Elijah, come here!" commanded Wechter.

The figure moaned softly, then got up on its hands and knees and crawled painfully over to Wechter. "Captain, what happened?" Elijah asked plaintively. Elijah was bald, large and not particularly intelligent.

"We're shipwrecked, you idiot. We must have entered the

planet's orbit too fast—it's a wonder we didn't burn! Dammit, Elijah, how many times do I have to tell you—"

"It couldn't have been that, sir," Elijah whimpered. "Honest, I watched the velocity this time . . ."

"Well, then, there must have been some malfunction in the controls," and Wechter cut him short with a wave of his hand. "What I want to know is, where the hell are we?"

"Aldebaran Five, sir."

"I know that, you fool! I meant what country."

"Oh," said Elijah.

They both surveyed their surroundings in silence. There was no sign of civilization, only miles and miles of violet sea.

"What I need is a map," said Wechter wistfully.

"There's one on board the ship, sir," Elijah volunteered helpfully.

"You idiot, I *know* there's one on the ship! It just so happens that the ship is out there in that ocean, full of water!"

Elijah sighed unhappily. The ship's silver hull shone brightly a few thousand yards from the shore as it reflected the brilliant sunlight.

Elijah thought hard for a moment. "Maybe a patrol will find us soon," he suggested.

"Aldebaran is an underdeveloped planet. There aren't any patrols here," Wechter stated bitterly. "We will certainly die of exposure or starvation, or both."

"Starvation?" his first mate asked fearfully.

"Our rations are on the ship, idiot."

"Oh," said Elijah.

"Well," Wechter said grumpily, "I suppose I may as well face death standing up. Get up, Elijah." They rose to their feet after much struggling.

Wechter surveyed the terrain about them. There wasn't much to see. They were on a small flat island, with no vegetation to speak of save a tall, dark red plant which rather resembled aloë.

"Great," said Wechter. "Just great. No food, no drinking water, no shelter."

Elijah whimpered.

Toward sunset, Elijah's stomach began to rumble.

"Dammit, Elijah," said Wechter, "can't you starve to death quietly?"

"I'm sorry," Elijah apologized, "but I'm so-o-o hungry. And

thirsty."

"You think *I* don't get hungry, Elijah? You think *I* don't get thirsty?"

Elijah's stomach rumbled again. He began to eye the red plants with interest.

"Go ahead, Elijah. Let me know what it tastes like. After all," Wechter added philosophically, "you've got nothing to lose but your life."

Elijah picked a leaf off one of the plants and ate it. Wechter watched with keen interest. Elijah picked and ate another leaf, then another.

"Well?" Wechter demanded.

"Delicious," said Elijah.

Between the two of them, they devoured twelve of the dark red plants.

Wechter opened his eyes to the piercing white sunlight. He sat up stiffly, rubbing his eyes. "Elijah?" he called. "Are you up?" He looked over at his first mate. And gasped.

Elijah lay sleeping, every inch of his skin a beautiful shade of dark red.

"Elijah!" Wechter screamed.

Elijah awoke, looked at his captain, and gave a start. "Look at you, sir! Just look at you!"

Wechter looked down at his own hands, whose color matched Elijah's.

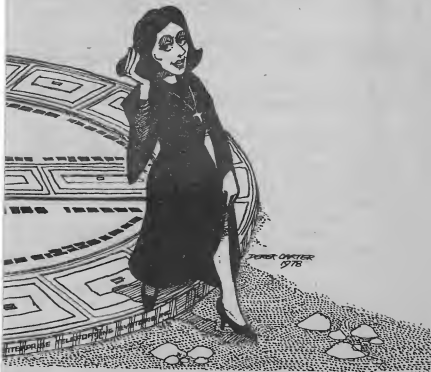
"My God!" wailed Wechter. "We're marooned!"

THE THIRD SOLUTION TO EXPLORING CARTER'S CRATER (from page 81)

The two other anagrams are TRACER and RE-CART.



GARBAGE
by Ron Goulart
art: Derek Carter



Mr. Goulart tells us that he was born in 1933 and sold his first SF story in 1952. Both of these events happened in Berkeley CA. After some years as an advertising man and spare-time writer of short stories, he threw himself full time into freelance writing, and has been doing quite well at it for more than a decade. He lives in Connecticut with his wife (a writer and a long distance runner) and two sons. His latest SF books include The Wicked Cyborg (DAW, Oct '78) and Cowboy Heaven (Doubleday, Feb '79). He also writes the newspaper comic strip, "Star Hawks," which is handsomely illustrated by his friend Gil Kane. If it's not running in your local paper, Mr. Goulart says, agitate.

As to why Marathon Murphy isn't immediately coming back from the Sahara and why I may go to bed with the opposition again.

Let me see if I can explain it to you, sir, in such a way as to avoid causing you to bellow and thump on your chest with your paws.

Okay, you remember you summoned me to your office in DC-2 on Monday last, which was April 5, 2020. It was a pleasant day and even though the force dome over your outdoor office area was malfunctioning in such a way as to suck in those sparrowish sort of birds, you appeared to be in a relatively good mood.

"You're looking remarkably fit, sir," I said, settling into a floating plazchair. "Have you done something to your hair?"

"Growrr," you replied. "Spare me the digs, Tockson."

"No, I meant to compliment you. I think you look very attractive as a blond, sir. Usually one doesn't see too many blond gorillas, but I—"

"Bip off, Tockson!" You pounded on your floating plazdesk with one furry fist. "When are you going to learn to be discreet? You oughtn't to remind a man of his handi—"

"Listen, sir, I don't consider it a handicap at all," I assured you, smiling. "Product Investigation Enterprises doesn't either. Promoting you to investigator-in-chief of the whole—"

"What do those bipheads know? Hell, there's a chimpanzee acting as secretary of state."

"Yeah, but that's the executive branch, sir," I reminded. "For a man who's had his brain transferred into a gorilla's body to rise so high in government is a real feather in—"

"Dan!" you shouted, using my first name finally. "Cease babbling; attend to me. I have an assignment for you. You'd better not dawdle the way you did last time."

"It's no sin to have your brain in a gorilla's body," I continued. "You couldn't help it anyway. Anyone might have hopped onto that faulty teleport pad the way you did on that fateful day back in 2016 and—"

"We won't dwell on it further, Dan!" you snarled.

"Think of how the gorilla must have felt, getting scrambled up with you. You both arrive in White Africa and he finds his brain in your body. He must—"

"There was nothing very wrong with my body!" You scowled, stroking your muzzle. "Perhaps I wasn't lean and young and attractive to peabraind bimbos the way you are, still I—"

"You were dumpy, sir. Pity the poor gorilla having to go home to his native jungle with a dumpy body like—"

"Dan, I have a job for you."

"So I gathered, sir." I gave you an attentive look. "Another faulty and potentially dangerous machine to investigate?"

"No. I'm taking you off things mechanical for a while."

"You're angry because I stayed in fifteenth-century Italy so long?"

"I'm not especially mad, no," you answered, growling. "But the Time Travel Overseeing Committee wasn't much pleased. You shouldn't have dropped in on Leonardo da Vinci with those tips on aerodynamics."

"After I tested out those faulty Japanese-made GE time machines I had some leisure."

You did that little angry chest-beating business you often do. A gorilla holdover, as I've often told you. "I'm sending you to Iveyville."

"Where is it?"

"In Sunnyland-2, in the Florida Sector," you said, shifting your bulky carcass in your floating tinchair. "I suspect, to say the least, we've got a food violation in the making down there."

"Speaking of food, did you get to that vegetarian place I told you about in DC-1? They're very good with roots and tubers. Just

the kind of chow a healthy gorilla probably—"

"Mrs. Banks and I don't dine out much."

I nodded. "Your wife, if you don't mind my frankness, doesn't appreciate you. Better a handsome gorilla than a dumpy—"

"Did you ever walk into a clothing outlet, Daniel, and try to get fitted for a nightsuit when you had a gorilla body? Do you know what my neck size is now?"

"I'd guess about—"

"Never mind. Let's get on with this bipping assignment."

Splop!

A stray bird landed on your desk at that point, angering you. After you'd swatted it away and calmed some, I asked, "What do we have to go on? What sort of danger to the consumer does PIE have to face?"

"That is what you're going to Sunnyland to find out," you told me in your throaty gorilla voice. "Some very strange food-induced behavior may be underway there. We have a tip from Marathon Murphy. As you know, he's a dedicated amateur consumer advocate, provided us quite a few other useful tips in the past. This time around, the problem centers in his own hometown in Iveyville." With your left paw you lifted up a faxmemo.

"I notice you're still wearing your Sigma Chi ring. Do they make them that big or did you—"

"This is the bipping code message Marathon sent in last night." You waved the memo pretty wildly. Several circling sparrows went fluttering up through the sunlight. "He's, by the way, using Consumer Code #26, in case you want to send him any notes whilst you're down there."

"Code messages are a waste of time. I prefer a direct contact," I said, slouching slightly in my chair. "What route is Marathon covering these days? I'll catch him on the run."

You let out a husky gorilla sigh. "What a great quantity of puckywits we have in this world of ours, Daniel," you observed, folding your paws over your broad chest. "Here's Marathon, an otherwise rational man of forty-odd years, who devotes all his time to jogging around the streets of the Florida Sector."

"It's a very aerobic way to live. You'd benefit from—"

"And all because he's got to hold on to his bipping World's Record for Continuous Running."

"I bet his respiratory system is in terrific shape," I commented, standing up to my full height of six feet two inches and a fraction. "What did Marathon give us in the way of specifics?"

You brought the faxmemo up close to your ridged brow. "A food scandal of major proportions brewing here. Bizarre transformations suspected. Could spread. Send down a crack investigator pronto. In haste, Marathon Murphy." There you have the message."

"Could be another bread thing," I said. "Although I doubt Ford-ITT would fool around with imitation sawdust again so soon." I rubbed my hands together. "Okay, I'm on my way to Sunnyland-2. Since this sounds urgent, I'll teleport."

Your little eyes narrowed. "Unk!"

"Really, sir, teleporting is perfectly safe nowadays," I said. "Thanks in good part to dedicated men such as yourself and PIE agents all across the nation. There hasn't been a scramble accident since 2018." I started across the grass of your office area toward the exit spot in the force screen.

"Dan!" you growled.

"Sir?"

"Don't dawdle. PIE is in a budget-cutting phase. They're very much annoyed by dawdlers."

"You needn't worry. The PIE budget computer is a friend of mine." Giving one of my friendly mock salutes, I departed.

I thought about my assuring you how safe teleportation was when I stepped onto the Southbound platform in the depot nearest my condo. There was nothing unsettling about the wide pad itself; the continual low sizzling doesn't bother me the way it does some. The other passengers on the platform, however, each on his individual destination square, seemed a decidedly sinister crowd. Matter of fact, they weren't all exactly on individual squares. That was because some of my fellow travelers, five to be exact, were Siamese Quints. Five rather shifty-eyed gentlemen joined at the hips. They all smiled at me, bowing, cameras jingling. I didn't quite trust them. In addition to these mutants who were, probably, a side effect of those Japanese power-plant riots back around the end of the twentieth century, there were six cowboys on the teleport pad. That, too, was unusual. You don't often get that many cowboys in my part of New Virginia.

"Howdy, pard," hailed one of them. A gaunt, grizzled man in a stained one-piece westsuit. "Don't be afeared to ask for our respective autographs now."

"Why would I want your autographs?" I inquired, keeping a pleasant tone to my voice.

"Cause we is celebs," said another of the cowboys. A toothless fellow with his sooty plazsombbrero worn low over his low forehead. "We is the Sons of the Tonto Rim."

"Interesting," I said, though I'd never heard of them.

"Why, may the good Lord bless the pack of you," remarked a slim paranun who was standing at the far end of the teleport pad. "Many's the beam of joy you've brought to the Little Wee Church of Our Lady of Cleveland Mercy Hospital where I work part-time."

Even though she was muffled in the traditional cloaklike habit of her order, I could sense this nun was an attractive young woman. In fact, I had a feeling she was someone I knew. Someone I knew and ought to avoid.

"Teleport passengers, please select your desired destinations," ordered the voice of the dispersal computer. "Jump-off time in 30 seconds."

Bowing easily from the waist, I punched up Iveyville on the tiny panel at my feet.

Still bent, I had an insight. Although I'd only tangled with the the girl twice in my year and a half as an agent for PIE, yet I was now relatively certain the slim paranun was—

Pap!

The usual stomach churning and fuzziness. The slight ringing in the ears. Well, no need to detail it, sir. You know what teleporting feels like.

The surprising thing was, I didn't arrive in Iveyville. Instead I was on a platform situated on a bright yellow beach. I suspected I had arrived on some Caribbean Island.

"Raise them hands, pard." The Sons of the Tonto Rim had come along with me, and the whole half-dozen of them were pointing Old-West-style blaster pistols at various important parts of me.

The paranun had teleported along, too. She eased back her cowl, smiled at me. "Like to talk to you, Dan."

"This isn't ethical, Kassy," I told her. "You can't divert an independent teleport passenger from his—"

"Come on over to my villa," invited Kassy Gulliver, nodding over one slim shoulder.

"Better," advised one of the singing cowboys, "else we mot shoot you up something awful."

I shrugged. You may write it off as dawdling, sir, but to me, fraternizing with the opposition now and then is a great way to learn an awful lot.

Kassy Gulliver is, when not decked out in one of her unflattering disguises, a very pretty young woman. Slim, sleek, well-proportioned, with silky auburn hair. Even though I'm usually able to outwit her, Kassy is one of the Counter Consumer Agency's crack operatives.

The specifics of what went on at her fairly palatial villa on the island of Marafona I won't burden you with. Suffice it to say that as the full moon appeared in the clear tropical sky, Kassy and I were sharing an enormous, circular, floating featherbed.

"Nix?" she inquired, sitting up and reaching for a picnic hamper which rested on a floating cobbler's bench beside the bed.

Waching her tan, supple back, I said, "Afraid so, Kassy."

"We can go as high as \$20,000."

"I can earn that much in a month on my present—"

"But, Dan, you don't have to do *anything* for this money," she explained as she extracted several plazpax of junk food out of her hamper. "That's the best thing about bribes."

"It's an idealogical thing really. I'm dedicated to consumer rights, you work for the business community."

"Twenty-five thousand dollars and a lifetime pass to any HoJo Flyin Restaurant in the world."

"Kas, I don't eat any of that garbage. So what's the good of—"

"Okay, \$30,000 *and* . . . we'll spend a whole week right here." She unseamed a sandwich, plopped it into her palm and let the package drop to the quilt.

Dumpy! was printed in bold, glowing letters on the packet. *The San With Ever'thing!*

"Dumpy? What the heck is a Dumpy?"

She flushed slightly, bare breasts first, then began to chomp on the thin sandwich. "Oh, only a new product somebody's testing."

I pretended only casual interest. "Kassy, you really ought to pay attention to me. Eventually that garbage you eat is going to take years off—"

"It is garbage, you're right about that much," she said, gracefully wiping a splat of something yellowish off her pretty chin. "An innovative new process allows the Lovin' Sam chain of flyins to produce a totally nutritious sandwich *entirely* from recycled garbage. Not just *food* garbage, mind you, Dan, but *all* kinds of garbage. Old magazines, discarded mattresses, plysues, autumn leaves, wrecked—"

"And you're *eating* it?"

"Don't you realize that with technology we can make anything palatable? Not merely palatable, but darn good for you. Take this Dumpy!, which you scorn." She snatched up the discarded packet, breasts tapping gently together, and poked at its ingredient list. "We'll skip the part where it says: 'DEADLY PERIL! The U.S. Foodtaster General Warns This Product Is A Probable Cause of . . .' and then the whole stupid list of spooky diseases which nobody in his right mind would *blame* a little harmless sandwich for causing. Here's the interesting part. 'Contains the Minimum Daily Requirement of all known vitamins and minerals, plus a dose of Ginseng sufficient to stimulate a Manchurian ox, plus a perfectly safe tranquilizer, plus delayed-release respiratory disease medicine, plus a brainstim powder, plus a harmless sleep-inducer, plus a cure for measles, rickets, acne, and Ferman's Syndrome.' Now, admit it, you don't get that kind of a lift from your so-called organic lettuce."

"Nobody needs all that stuff." I was keeping my face and body calm, but I'd noticed there was something else printed on the sandwich wrapper. In tiny letters it said, TEST MARKETING/APRIL 2020/ LOVIN' SAM'S IN IVEYVILLE. I began to suspect the reason Kassy and the Counter Consumer Agency didn't want me to go to Iveyville had something to do with Lovin' Sam's branch in that town, with some new products they were testing there. "What eating is all about, Kassy, is—"

"If you don't take the bribe, I'm going to have to keep you locked up here." She dug into the hamper again for a packet of explodrink. "I'll also have the Sons of the Tonto Rim beat the pucky out of you."

"You wouldn't think much of me if I accepted a bribe."

"Sure I would." She paused in the act of unzipping the drink pouch to pat me on the cheek fondly. "My feeling for you, Dan, is essentially a physical thing. There's little or no philosophical or moral basis. I'd sleep with you like this just as joyfully if you took the dough."

Nodding at the pouch, I advised, "You shouldn't drink that garbage."

"What a cleancut, uneventful life you must lead. I bet if I didn't seduce you every few months there'd be no excitement at all." Tugging the sipper out of the pouch, she inserted it between her lovely lips.

"Too many people nowadays don't realize, Kas, how enjoyable

simple solitude is." I watched her as she sipped the explodrink.

"I love the way this stuff starts bubbling once it gets into my mouth," she said, giggling appreciatively. "And what's even ... ump!" She fell over backwards suddenly, squirting purplish liquid all over her pretty breasts.

This agent work does something to you after a time, sir. A few years ago I would never have reached out of bed, while making love to an extremely attractive young woman, and shot a dose of fast-acting knockout juice into all her soft drinks. Yet that is exactly what I did in this instance.

Swinging off the huge bed, after wiping the sticky explodrink off the unconscious Kassy, I hurried into my clothes. Kassy had a skycar parked on the roof pad of the villa; all six of the Sons of the Tonto Rim were rehearsing down on the lower level. Facts I took into consideration in working out my particular escape plan.

The keyplate for the skycar was in the picnic hamper. I noted, as I swiped it, several of the other imitation foods in there were from that same Lovin' Sam's outlet in Iveyville. Pausing only to make a quick plaz replica of Kassy's forefinger to use on the airships' printlock, I climbed out the bedchamber window and up onto the moonlit roof.

Well, actually, I also stopped to kiss Kassy once on her smooth tan forehead. I try to spare you, sir, most of the sentimental touches.

I couldn't find Marathon Murphy.

I circled his usual route and he wasn't at any of the spots he was supposed to be at. Disposing of the skycar, I even jogged his established course on foot seeking a trace of him. There was nearly a frumus with a feisty band of Venusian joggers who crossed my path, calling out the usual "Green is keen!" slogans and giving me the tentacle. I ignored them, as well as outran them.

Deciding Marathon was obviously not following his accustomed path, I decided to trot over to his starting point on the outskirts of Iveyville. The decorative palm trees and the moderately breathable early morning air made for a pleasant run.

Britzz! Chug!

Brit! Cunk!

I kept running at an even pace, although I felt uneasy.

There were seven of them. At first they pretended to ignore me, went roaring on by me on the nearly empty streetway. Wheelies, the bunch of them. Seven very large louts with jetpropelled skates

in place of their voluntarily amputated feet. Each clad in a one-piece black fightsuit. Each suit bearing the name of their Wheelie group emblazoned on its back in glowbeads. *The Skullface Death-Killers*. Not a name to cheer me up on my solitary run through this strange town.

Britzz! Bruk!

Chunka! Cung!

They began circling me, braided hair flapping, augmented teeth gleaming.

"Whiz brzz whirzz," said the guy nearest me.

He'd turned on his motorized teeth and they were grinding away at a tremendous rate. Made it difficult to understand what he was saying.

"Whizz brkk motherfumper whirtzz!"

I caught part of that. "Morning." I grinned in my most ingratiating manner. "Nothing like a good run to start the day off, is there?"

"Grzz schmuck outlander fritzz."

Two more of them were quite close to me, teeth whirring and eyes glistening.

"I'm not actually an outlander. Indeed, this is my old hometown. I grew up right down the street, at the intersection of Grumpy and Dopey Streets. I'm back home again after too long a time away to—"

Pong!

I must admit I never heard the ones who wheeled up behind me. Could be they'd cut the motors in their feet and teeth. At least two of them clouted me over the skull with heavy metallic objects.

I fell down.

There was a very strong animal smell, which I wasn't able to identify immediately, all around. Groaning as unobtrusively as possible, I pushed myself up off the neowood flooring.

Stumbling as I regained my feet, I bumped into several shadowy figures.

"Four score and seven years ago . . . you weigh 164 pounds . . ."

"Let me make one thing perfectly clear . . . shine 'em up!"

I backed away, realizing I'd collided with a cluster of dusty, cobwebby androids.

"That's going to start them howling for sure," said a portly figure near the warehouse's thick metallic door.

"Can't place you, sorry. Which president are you?"

"I ain't no dingdang andy, I'm Senior Police Chief Tippet."

"Is there a junior chief, too?" I asked as I moved toward him.

"Not in the way you mean, buckeroo. See, we got us two police forces here in Iveyville. One for young folks and one for senior citizens. That there's a custom all over the Florida Sector, I reckon."

"Ask not what your country can do for you . . . three shots for two bits!"

"Oops!" I'd bumped against another android, still somewhat groggy from being coldcocked by the band of Wheelies.

Yowl! Howl!

"What'd I tell you," said the plump Chief Tippet. "It's howling and baying and snarling hereabouts all the live-long day. And I got to tell you, dang it, nothing smells worse than wolf crap."

Halting a few feet from him, I inquired, "There are wolves here?"

"Dozen at least, locked up in the next dangblast warehouse to us," he replied, wiping the back of his hand across his mouth. "Ain't exactly wolves, more what you call lycanthropes."

"Werewolves?"

"You got it, young fella. A dozen, or might be a baker's dozen, of what you call wolfpersons."

"People, you mean, who turn into wolves?"

"What the dickens is a werewolf, if it ain't that?"

Snap!

I snapped my fingers. "This is commencing to make sense," I said, grinning. "Iveyville's been bothered by werewolves for the past few days, hasn't it?"

"We got us one hell of an outbreak," the chief admitted. "Folks getting themselves gnawed on and chased and snapped at. Then yesterday it done stopped. First off I thought the plague was over, but nope. They'd simply rounded up the dang things."

"I admire your vocabulary," I remarked. "Don't often encounter one such in this day and age, except in singing groups."

"Wellsir, I took me a mailorder course in sheriffing once," Senior Police Chief Tippet said.

"Any idea who rounded up these wolf people?"

"Not a one," he said. "I opined it was some jaspers playing vigilante. Now, however, I got me the idee these jiggers want to keep these critters hid for some reason."

"Exactly," I agreed. "They don't want this side effect known

until they modify the product. If this got out the publicity would ruin them."

One of his eyes narrowed as he asked me, "You know who started this here hootenanny? Who bopped me on the cabeza when I started investigating the missing wolfpersons? Who dumped me in here with a bunch of semi-defunct patriotic museum andies?"

"Sure, I know all that and more," I assured him. "What we have to do now, though, Chief Tippet, is get out of here."

"I been trying at that for hour on hour, buckaroo. Only time they opened this door was when some walleyed galoot brung me a silly little snack in a plazbag."

"I've got a gadget for getting through that door."

"You maybe had it, young fella." He gave me an amused snort. "'Cept these jaspers searched us good and proper fore dumping us here."

"Sure, but they're so steeped in the junk-food mystique they tend to overlook certain things." Slipping my hand into my tunic, I tugged out a packet of frylikes with the Frenchies! name bright upon it. Unseaming this packet I'd had the foresight to bring along, I shook out one particular golden-brown fry. "This one isn't exactly what it seems. It is, in point of fact, a highly powerful laser gun made to resemble a french fry."

"Hot diggety, that'll get us clean out of here for sure." Chief Tippet stomped a foot happily. "Oh, but once we gets outside they's a tough galoot with a stunrod out there."

"Don't worry," I said. "I've got another french fry for that."

I hadn't expected to encounter Lovin' Sam himself.

Suitably disguised, I called on the local Lovin' Sam flyin restaurant in the early afternoon. As you know, sir, all of the places in this chain are done up to resemble late nineteenth century bordellos.

An ample woman in a feather-trimmed silky robe admitted me. "Hi, honey. This is Serbo-Croatian-style food week at Lovin' Sam's," she announced by way of greeting. "I'd suggest you try the fried *koljeno* with—"

"Actually, mam, I 'm with the Sunnyland-2 Rat Quota Office," I explained, giving her a very brief flash of a recently applied ID tattoo on my chest. "We've heard rumors, unsettling rumors, that the number of rats prowling your kitchen exceeds government-set limits."

"Oh, sure, honey," she said, dimpling. "You want to see the

manager, right along this way."

I trailed her broad form through the restaurant, dodging tables and lingerie-clad waitresses. One platinum-haired girl who was serving a heaping plate of neogetti in a dimlit corner seemed vaguely familiar, but I couldn't place her.

"I heard a lot about your new Dumpy! sandwich," I said to my hostess by way of conversation. "Maybe I can sample one while—"

"The what?"

"Lovin' Sam's newest, the Dumpy!"

"Oh, yeah, it is a very popular number, honey. So popular indeed, that we're all out of them today."

"A pity."

We made our way, my hefty guide breathing unevenly, along a dark-paneled corridor. She, keeping her robe shut with one chunky hand, reached out and opened a heavy door. "Right in there, sweetie."

I crossed the threshold onto a thick, flowered carpet and found myself facing Lovin' Sam. The door was quietly shut behind me.

"That's a very unconvincing mother of a moustache," he said from his rolltop desk.

I touched at it. "Oh, so? I had to improvise it out of wolf fur," I said, seating myself in a swivel facing him. "You look exactly as you do in your vidcommercials."

"Why the bejesus shouldn't I?" he said. "I am Lovin' Sam, so naturally I look like him."

"Sometimes there's a media distortion. For instance, when we arrested Granny Malley for excessive adulteration of her applelike pies, she turned out to be considerably frailer than—"

"You are a talkative mother, aren't you?" Lovin' Sam leaned toward me, the zircon in his front tooth flashing. "Just as I heard, talkative Dan Tockson of PIE."

"I see I really am unmasked," I said, glancing around his office. I was pleased to note several large cartons labeled Dumpy! stacked against one wall beneath a dangling imitation-Tiffany lamp. Exactly the sort of evidence I could teleport back to you and our labs, sir. "It doesn't matter, since the jig's up, Lovin' Sam. Senior Chief of Police Tippet has rounded up all those poor unfortunate werewolves the minute I came to. By the way, bopping an accredited agent of the United States gov—"

"You dumb mother, my laboratories are just about into a cure for those people. If you'd left them stashed away another few days, we'd have got them all fixed up good," said Lovin' Sam, rub-

bing a black, bejeweled hand across his perspiring face. "Then we'd have let you and that doddering sodkicker go, with nobody the wiser."

"Nope, those wolves were smelly. I knew I was in the vicinity of werewolves the minute I came to. By the way, bopping an accredited agent of the United States gov—"

"You can't prove I had nothing to do with those Wheelie mothers."

"I will be able, however, once I send samples of your new Dumpy! sandwich to DC-2, to prove beyond a doubt you've been using illegal and untested ingredients in your food. There are several known dubious ingredients which have a lycanthropic side-effect on some people, so once—"

"There's absolutely nothing wrong with them sandwiches," insisted Lovin' Sam. "The only reason I'm recalling this test batch is they're not lip-smacking good enough. No other reason."

"Your goons out at the warehouse talked, Lovin' Sam. I know for certain that some of your unfortunate patrons started turning into raving beasts mere seconds after they ventured to sample this newest bit of garbage you—"

"I eat these mothering things myself and I'm okay." He hopped from his chair, rushed to the pile of boxes and ripped a lid open. With both hands he grabbed out a handful of Dumpy! sandwiches. Swiftly he opened three of the things, gobbled them down and then returned to his chair. "You PIE mothers are always trying to frame me for whatever silly . . . woof!"

"Beg pardon?"

"I was saying, mother, that there are any number of reasons why woofy woof yowl!" He finished the sentence on the floor, in an all-fours position.

"What further proof do we need?"

He was covered all over now with bristly hair, and his ears had taken on a definite lupine cast. When he snarled, all his sharp, wolfish teeth showed. The zircon was still there, gleaming.

"You don't want to risk eating a government man," I warned him.

"Growrr! Roff!" He leaped straight for me.

I had a stungun strapped under my tunic, but before I could unholster it the wolfman was upon me.

He growled, snapped at my flesh and tried to take chunks out of my arms and head.

Bringing both knees up, I connected with his snapping jaws and

caused them to clamp shut momentarily.

I rolled away clear, jerking at my stungun.

He got me again, teeth shutting around my wrist.

The office door opened and someone came running in.

Zimm!

After a few seconds I realized the beam of someone else's stungun had hit Lovin' Sam and caused him to freeze.

Gingerly I worked my wrist free of his now immobile jaws. Rising, brushing myself off, I held out my hand. "Thanks, Kassy."

"Don't try shaking hands, idiot, you're all bloody."

"Excuse it." I accepted the swatch of lingerie she tore from her waitress disguise, and bound up my wound. "I appreciate your—"

"Bad publicity if you were chewed up by one of our clients, Dan," the pretty CCA agent said. "We'll have trouble enough squelching the stories Chief Tippet's been giving out to the media."

"Squelch?" I grinned. "How are you going to squelch this, Kassy? As soon as I ship a few of these deadly sandwiches to headquarters the—"

"You won't be doing that."

"You can't risk killing me."

"We try never to kill anyone." She looked at me with a certain amount of fondness. "Teleportation is much easier. I took you to my island and that nosy Marathon Murphy we zipped over to the Sahara Desert. Turns out, in case you're interested, he *likes* it over there and is going to stay long enough to try out for the Cross Country Barefooted on Sand World's Record to add to his laurels. As for you—"

Zimm!

At the moment, sir, I'm in the Caribbean once again. Kassy has the notion she'll keep me here until the current batch of faulty Dumpy! sandwiches are safely destroyed and all the fuss dies down and is forgotten. From the news she leaks in, though, I think we can consider the Dumpy! over and done with for good.

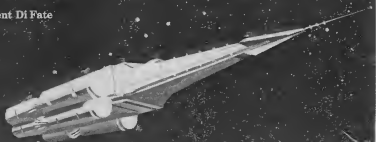
Rather than make another daredevil escape, I intend to stay here in her villa. I'm dictating this report into my typevox and you'll receive the usual three copies as soon as I'm back in DC-2.

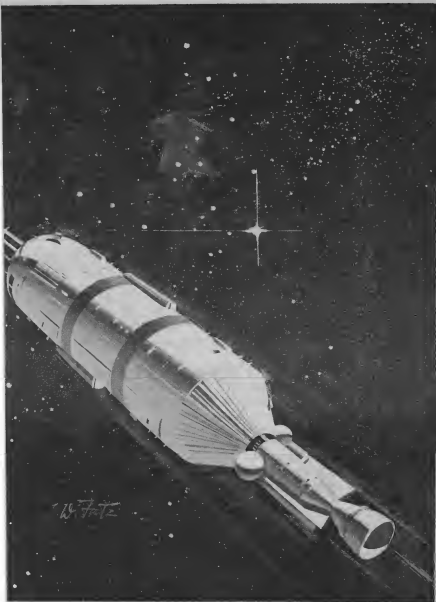
Meanwhile, there's no telling what valuable intelligence I can pick up by keeping close to her.

KER-PLOP

by Ted Reynolds

art: Vincent Di Fate





Mr. Reynolds, who lives in Ann Arbor MI, now admits familiarity with three more archipelagoes: the Cooks, the Bahamas, and the Marshalls.

I.

"I am your examiner," said the little man on the far side of the bare desk.

Checker Pilot Cotter Oren would have risen to attention, but it was null-grav, he was strapped into his chair, and he was far too weary anyway. He contented himself with a deferential nod. All he knew of the other was that he was Oren's superior, and that it was better to answer his questions as accurately as possible. He only hoped he wouldn't fall asleep in the middle of the interrogation.

The examiner looked up; he was gaunt for a Randarian, unstriking except for his eyes, which showed at once both piercing and wistful.

"Item," he said abruptly: "you have made a most unusual and difficult journey, for which you will eventually receive full recognition and congratulations, but there is no time for that now. We must evaluate the implications of what you have experienced without loss of time.

"Item: don't worry about the relative significance of details. Tell me everything you can come up with. It will be my responsibility to integrate and analyze the data for possible policy decisions, not yours.

"Item: I will not be able to prompt you in any way. Your observations must not be contaminated by what I may think I already know; I want Primary experience.

"Item: you are under hypnosis. Among the other reasons, this is keeping you from succumbing to what would otherwise be intolerable exhaustion.

"Now you may begin. At the beginning, please."

There was a long pause, while Oren's gaze roamed the small anonymous room and finally settled upon the examiner.

"I'm sorry, sir," he said at last, "but I haven't the slightest idea what it is I'm supposed to have done."

The examiner flashed a warm smile in which all consciousness of rank dissolved. "Of course not," he said. "That's part of the

hypnosis. Your more recent memories would tend to adulterate the earlier. Don't fight the hypnosis; it will do the job for you."

"If you say so," said Oren, "I'll try." He leaned back and closed his eyes. Slowly, like dust at a planetary genesis, a few particles of memory began to collide and cohere. Abruptly they coalesced; his waking view of his luxury suite on Randar 13 sprang into his vision as solid as it had been . . . how long ago?

"I woke up," he began tentatively, "twenty minutes before the start of my trick. I think maybe I get more and more nervous in my sleep as my watch gets closer, till my nervousness wakes me up automatically on time. Anyway, twenty-to is when I always wake up. Breakfast was ready for me." He paused. "Seems whole orbits since I've had Groogeggs and flaben. Got dressed . . . these clothes . . . in better shape then, of course. Stopped at the Comm-Recept on the stairs to the roof. I'd sent another video in to Randar Central on 4B before I slept. Told them most respectfully that they *had* to find another checker-pilot at once, or the whole station would collapse under the incoming pile-up. Since Roscalp broke down, me and Hernie and the kid had been working overlapping five-hour shifts, wearing ourselves out, and the ships coming in faster than we could get to them. Suppose one of *us* went under too. We just couldn't keep it up much longer. And so on, real polite. I knew there couldn't be an answer yet. It takes eight hours for light to get in to Randar 4 and back; even if they kicked back their 'Sorry, old fellow' right away, it would be another half hour before it got back to 13. But I keep hoping the Board or someone will do something someday about speeding light up a little bit."

Oren stopped abruptly, realizing that he was merely repeating almost verbatim his not very brilliant thoughts of that earlier time. "You wouldn't have any pull in a matter like that?" he asked.

"I'm afraid not," came the other's voice. "My influence over the physical laws of nature is almost as insignificant as my influence over the Board."

Oren chuckled, and plunged into his own mind again.

"So, there wasn't an answer yet. I hurried to my checker-ship, which is always ready on the roof, and if anyone but me ever tries to use it . . . zzzzutt." He languidly slit his throat with his index finger. "First I had to squeeze into my checker-suit, to make me a superman, and after that into my checker-ship, to make me a god. Those checkers are blamed small, you know. Don't feel like get-

ting into a ship, more like climbing into a second oversize suit. I guess it's really not a ship at all; just an outer defense suit, 'bout three meters long. But Cosmos, friend, does it take you places! Well, I punched the key to lift me to my assigned starting point on automatic, and in a couple of seconds I was ready for duty, a few hundred kiloms off Randar 13. Top half of my view was stars, real nice; lower half viewscreen. Got to handle the controls by touch, of course. Can't possibly see them."

And now, his surroundings forgotten in the grip of the hypnosis, Cotter Oren again effectively lived his memories.

II.

So below all those beautiful stars flicked on the noticeably-less-beautiful face of Flynn Rose, my Controller. Like all his breed, he's a jerk—gets such a kick out of sending guys places no one's asking them to go themselves.

Rose looked up from his control board down on Randar 13, and winked at me. Then he dropped his voice to a conspiratorial whisper, so no one could hear but the half-dozen stations that constantly monitor our contact. "How about taking a few minutes for a leaf, old boy? I'm feeling real mellow today."

I didn't feel like kidding. "Come off it, Flynn. What's come in already?"

"Kinda impatient to get to work up there, Cot?" And Rose, ignoring his own viewscreen, leaned back in his swivel chair to gaze upward. "I can see you through the skylight, you know. One of the fainter and less aesthetic stars of my zenith. Yet within that orb there breathes a spirit so dedicated to his task of welcoming the galaxy's wanderers to Randar . . . no, I simply cannot grasp it. Inside, you must be as work-shy, and planet-hungry, as the rest of us. Come down from yonder heights, oh royer . . ."

Cosmos, he'd go on like that forever if I let him. "When they bust me to gravity—like one Controller I could name—and not until. I draw ten times your pay, Flynn, and you know it."

"Sadly true. Then your munificence will rinse our impoverished gullet this coming pre-sleep, right?"

"If you don't know, ask someone intelligent . . . is there anything in?"

Rose didn't need his clip-board. "Oh, things are a tiny bit piled up, is all. Let's see, now." As he recited, views, ports, distances,

transit times, tonnages, population estimates, ship layouts paraded across the screens behind him. "An S.N. Cruiser waiting at Coördinate 1, from some star called Mike's Hangover, for the love of Man; 740 light years off and 753 years en route. Some two-man yacht in Coordinate 4, from Irango, 17 light years, of course. A hulk from off in the Spider Web somewheres, 3000 light years; but the way she's pitted, I doubt me much of any survivors. That's in Coörd 11. None of them have signalled us except with the automatic come-out identification signals, so you'll just have to enter blind; as always. Wait, another just came in—Coörd 9. And here comes the identification... AND it's from 350 light years, Pellidee." His snub nose wrinkled. "Cosmos, who named these places?"

Less I couldn't have cared. "A little piled up, the man says. Who's wasting time spewing vacuum when we're four ships behind?"

Rose looked up sharply. "Cotter, what are you doing twiddling your heels up there? You're on the job, man. On that Irango yacht on the double. Coörd 4—jump, checker!"

I jumped. Jumping, I swore. I knew Flyn was doing his job well; the adrenalin he pumped into me during the seemingly wasted first few minutes would keep me working at double speed the rest of the watch. But, holy nova, someday I'll twist his neck for good!

My conscious throttling of Flyn Rose did not prevent my hand from automatically punching the button for off-Coördinate 4. The checker-ship did the rest. The heavily packed stars slewed around me in a vast circle, and for a fraction of a second the ship's nose hung in a steady point just over Randar 13's darkly cutting horizon. Then everything outside flickered like a child's shifting splinter-crystal, and I was a third of a second and a hundred thousand kilometers straight ahead of myself, hovering at one of the 24 prearranged work locations—Coördinate 4. Or, more exactly, off-Coördinate 4, because if I were so dumb as to aim for the Coörd itself, I'd find myself amalgamating at light-speed with the yacht that was already there. No, and I thank you.

I rotated the checker-ship until I could catch sight of the yacht, stabilized where the detractor beams had braked it from light to local zero in zero squared. The occupants, if any there were, hadn't jumped on their chance to communicate with the outside for the first time in seventeen years. I behooved myself to caution. A checker-pilot can get so involved with the complications of the multi-generation flights that he starts to forget that even a

single-generation one can generate some oddities. There was that lunatic from Grome just 2 light years away—you can't find a shorter hop than that—who took a laser to me on the impression that *I* had turned the stars out on him.

Why anyone would *want* to spend two or seventeen years, or a whole life, in one of those insulated flasks is sure beyond me; the way I see it, if you're born in a stellar system, you better accept being stuck with that one. What in Cosmos is the use of spending half your life in isolation to get to one of the few near systems you might reach in person, when you're an old man, and there's likely nothing any better there than what you left behind? And what in a *cubed* Cosmos is the sense of voluntarily accepting life confinement on a *real* trip, in a sealed capsule you'll die in, so your umptieth descendants can land on a planet for which they're totally unadjusted, and will only be homesick for the good old ship again? And of course, once you start, there's no changing of the mind; like it or not, dead or alive, when the course has been set for a destination, that's where that ship's going to go.

They say that way back in the times of the Anarchate, crews could decide to stop anywhere they wanted to. Maybe that's one reason there isn't an Anarchate any longer. Rose told me once that on the original worlds, men used to think that if the speed of light couldn't be broken, man could never populate the Galaxy. So they worked and worked on finding flaws in the light-speed equations. And found them—in the wrong place. C-limitation held; it was time-dilation for subjective consciousness that didn't. A light-year was going to *feel* like a year, however you went about it. For a while, that seemed to kill it. Item of faith; the Galaxy is too big for Man.

Rose said the two things they didn't count on were the great length of time they'd have to do it in, and the stupid perversity of humanity.

And there are still a lot of the stupidly perverse around, judging from the constant influx of ships to Randar. Of course, Randar used to be a Galactic Control Center, or something, back before the Tween-Times, though now it's just one of the 60,000 or whatever thoroughly populated systems. There must have been more traffic through Randar then, I suppose, but they probably had better checking facilities too.

Not that I draw my pay for thinking so much. By this time I'd already spotted the silver speck of my target, centered nose on to it, and punched APPROACH. That flicker again, and I was floating

the standard four meters off the yacht's hull.

It was a small two-man model, about a hundred meters along the thicker axis. I knew the type; Irango's close enough that the ship styles haven't diverged much anyway. Everything looked in order; the airlock had juttied out automatically when the yacht was trapped in the shipnet. I punched LINKAGE, and my faithful checker-ship swung around the other hull at a constant four-meter distance until directly over the airlock, then dropped to clip on. I went through the routine. Checker-ship defenses on; nothing short of a direct neutron blast, if that, would faze it. Personal defenses on; I was similarly protected. Yacht's air breathable, not that I'd have to sample it myself; and airlock open.

Squirming backward out of my tiny projectile, I floated ungracefully feet-first into the yacht.

The passageway I entered was deserted—normal, quiet, even almost clean. (Most ships tend to disintegrate, dirtwise.) I pushed off from the bulkhead, ignoring doors to either side. Whatever the size or shape of a ship, its sealsafe will always be in the precise center; it's the only topographical point every ship has. There was no need for stealthy glances over my shoulder—I had the confidence which comes from carrying more defensive apparatus than that allowed a Galax-cruiser of the S.N.

I swung open the heavy metal door at the end of the radial corridor, and looked into the ship's bridge. It was cluttered with furniture and controls, mostly of molded ceramics with luxury wood fittings; garish. It was only on the second sweep of my eyes that I caught sight of the man slumped in a swivel chair before the viewscreen, staring at the image of Randar 13, limbs drifting to either side in the free-fall equivalent of a relaxed sprawl.

"'Lo," I said politely. "Mind if I monitor your sealsafe?"

Not that I wasn't going to anyway, but no need to be rude about it. The only response, however, was a possible accentuation of the slump.

I didn't have time to waste, so I crossed to the sealsafe in its central mounting. It's a small black cube, about two centimeters on a side. I got a duplicate from my suit's chest-cache, examined each surface, chose the proper one, and pressed it to the top of the yacht's sealsafe. The little click was audible as transfer began.

There was a short silence, and then the man in the chair opened his mouth. He tried to speak, and made a sound like rust-coated tonsils. He stopped with his mouth open, and for a moment I could see his tongue rising slowly in freefall. Then he got it

under control and tried again.

"Stars . . . sure pretty."

"You haven't seen 'em for seventeen years, maybe. See stars on the job all cycle like me, get pretty sick of them."

He tried again. "Nice planet you got there."

"If you like minus 227 degrees outdoors."

That shut him up for a while. I waited for the transfer to be completed. That's the longest part of the job; it's quicker to get out to a ship and back than to monitor its sealsafe. The fellow was eager to communicate, though. They're all that way—except the ones who try to extinguish me. Anyway, he tried again.

"What're you doing?"

"Monitoring your sealsafe." He looked blank. "This little gizmo. When you left Irango, they inserted up-to-date records in here. I'm getting them out. The Analysts will use them to bring our knowledge of what's happened in Irango up to time-space present."

"Up to what?"

I blinked at such ignorance, and then realized he must have been just a kid at departure. Seventeen years was a long time to remember things anyway. "Time-space present, fellow. Up to the latest possible time you can know anything—its distance from you in light speed measured as past time. In your case, up to seventeen years ago. We won't know what's happening on Irango now until seventeen years from now. We'll know what's happening now along the periphery when the sealsafes sent out now get here in another five thousand odd years. Simple enough?"

"I didn't know what it was," said the other. "Tried to take it apart some years back with a torch . . . had a lot of time to kill."

I chuckled at the unfamiliar idiom. "Impossible and undesirable, fellow. Couldn't dent this thing with anything from a laser to a krotie blast. You know, there are cases of ships absolutely blown into their component atoms by reactor backfire, and nothing came on into the terminal shiptrap nets except the sealsafe." It was a ludicrous yarn, but indicated some of the facts. "And undesirable, especially for you, 'cause if you'd come in without it, we'd know at once, and blow you into little tiny bits soonest."

"Huh! Why's that?"

The reason involving another function of the sealsafe not for general consumption, I skipped over the matter, saying, "It's done clear across the inhabited Galaxy, from Leidul to Olva; and it's

been customary under the Amalgamate, and before, during the Tween-times, and before *that*, during the Anarchate. You are questioning 64,000 worlds and a half a million years?" The seal-safe clicked again, and I scooped up my duplicate cube. "So long. Be good." I started off.

Cosmos, but the guy exploded. "Wait!" He scrabbled for a moment, and managed to jerk himself erect. "Aren't you the cold one! Damn it, you're the first man I've seen in half my life. Welcome me! Shake my hand or something. And get my feet on a planet." His arm was jutting out towards me like a piston. I grabbed it and pumped a bit.

"Sorry, ol' fellow, but I really do have to be on my way. It's just that I'm awfully rushed, and actually, I'm not supposed to be the welcoming committee. Customs will board you as soon as I leave, and they're just swell guys. If you don't need a lot of rehabilitation, you can be in-system and down-planet in a few days. And you look fine to me, considering you've been all alone."

"I had a partner when I started," he admitted, hanging his head in embarrassment. "We were totally incompatible. I killed her three years out of Irango."

"These things happen," I consoled. "Don't worry. Randar doesn't care about en route activities." I turned to go, then thought of something. "Oh, fellow, just don't kill anybody *in* this system. There's some law against it. It can be mean."

His eyes transluced a bit, and I decided I was pushing him too fast. Wasn't my job anyway. Let Customs and Quarantine rehabilitate and orient him. I smiled, waved, pushed off down the corridor. He collapsed into his chair again, and glumly watched me out of sight.

III.

I felt rushed for time as I squeezed out of the airlock, which is nothing new. The ships keep coming in as fast as we can check them. The only thing that would help, I thought, as I detached the checker-ship from the yacht's airlock, would be more checker-pilots, and there just aren't the men with the capability. Oh, I suppose there are hundreds, or anyway dozens, of men in the system with the technical ability and all for the job. It's the other aspect. It's not enough to be smart about the right things; you've got to be dumb about the wrong things. Here you're putting a fel-

low in a defensive ship and suit that just has to be impervious to any weapon known to man, and giving him weapons that are just bound to destroy any defense known to man (yes, I've been tempted, and no, I haven't Z-beamed my Q-screen) and then you don't want him to take over the whole system. I don't *know* that I could take over Randar with my ship and suit, and *don't* know why anyone drawing my salary would want to. Enough is all I can consume.

But it seems I'm deviant on this. At any rate, the psy-guys who accepted me reject over ninety percent of the otherwise qualified candidates on the grounds that they'd do just that, or be tempted to. I guess I'm just too nice for that. I guess I'm just too dumb..

By this time, I'd keyed the HOMING switch, and dropped in a second down to the surface of Randar 13, straight into my homing slot at light speed, where the shiptrap detractors stopped me from smashing on through the planet. Shoving the transfer cube out of the ship into the tube which would pull it into Security, I received an unused one in exchange, and shot myself into space again. Slapped on the viewscreen. "Irango at Coörd 4 clear," I told Rose. "Number 2 Boarding Routine, and a couple weeks Rehab should take care of him."

"And something else had come in during your dawdles," snapped Rose. "Take a look at Coördinate 9 at once."

"What's in there?"

"We don't know. When it slapped into the net a few minutes back, it set up a deafening squeal straight across all the normal operating wave-lengths—sort of yelling 'Me first, me first!' Take it on priority, so we can function again. Coörd 9."

"Where's it from, Flynn?"

"Can't be where it says it's from, Cotter. On the double!"

So I doubled.

A few seconds later, delay caused by needing to hop twice to clear the planet, I was at off-Coördinate 9. The shiptrap net should have braked the new intruder to zero just ten kilometers ahead of me. But I could see nothing likely against the star-spattered blackdrop. I waited a moment, scanning across the far sparks of the suns, my irritation growing. By this time I should have built up quite a bit of drop towards the planet under gravity; any object out there should have stuck out clearly in reverse against the sky. Impatiently, I pointed directly into the Coördinate itself, and pushed APPROACH. The ship jumped; and still there was nothing. Which was ridiculous, as I must now be within four

meters of *something*, or I wouldn't have come to a stop at all short of the end of my leash.

Then I almost exploded in laughter. A couple of meters ahead of me, revolving about itself in solemn circles, floated the trouble-maker—a small pod, some meter long. I slid down my ship's grabhole, and extended my arm towards the pod. It was just beyond reach. Withdrawing my arm, I realized the ludicrousness of the situation.

Four meters was the nearest the APPROACH system would let me come to any material object, my arm was some deal shorter than that, and obviously this little pod had no airlock onto which to connect. And if anyone has ever figured out how to advance precisely three meters forward at 300,000 kilometers a second, the method has yet to be built into my checker-ship. So having come all the way out here to get to this thing, how was I to get *at* it?

I was baffled a moment, and then—"when in doubt, freeze up"—followed through with routine. I pushed LINKAGE. My little ship orbited in a neat semi-circle about the little pod, and then drifted in towards it as if it were just another spaceliner. The pod and checker gently bumped, and the pod silently burst into two halves at the axis. In the hollow floated a small silver cube. I reached out my suited hand and scooped it in. And that was that.

Turning ship, I struck down for the homing slot, made the cube transfer and was in space again on the rebound. It was just beginning to come home to me that something had come across space at light speeds to Randar—with no apparent source of motive power. Well, there must be specialists for it, I decided, out of my jurisdiction now.

Rose was on screen again. "Well enough, Cotter. Now back to routine. S.N. Cruiser from Mike's Hangover, 740 LY flight, Coörd 1."

"Am doing. Remind someone to remove that little rascal at 9. It's no ten-thousand-manner, but it could sure make a neat little hole in the next ship coming in to that Coörd."

"Thanks, Cot. Someone's already on it," he said. He sounded subdued. Usually he'd remind *me* to stick to my own duties.

I slapped for off-Coördinate 1, and my ship leaped. You know, I used to think they were called checker-ships *because* they jumped. That's 'cause there's a board game, very old and traditional in my clan, with pieces called checkers that jump. Of course now I realize it's the other way round—the game must have been named for the ships. But that's both there and then.

At least the Space Navy ship was plainly visible from the off-Coördinate. Over a kilometer across, she hung in the blackness like a minor moon. I looked the hull over, noting worse pitting than the familiar moons of Randar 2, and felt somewhat dubious about survivors. Still, I saw no actual breaks, and even where there have been, I've found tenacious incumbents hanging on . . . though usually I'd rather not have. Anyway, regular precautions were in order.

In the cruiser's rotation, the markings on the bow spindle were swinging into view. I stepped up the magnification and sighed, as a pleasant illusion was shattered. Letters in Old Northern script, long superseded here, proclaimed that the ship was the S.N. *Biphotonic* from Maixa Nova. Too bad—"Mike's Hangover" had sounded like more fun. I reached for the comtrans, but never keyed it. Rose appeared suddenly on my screen. He looked real bad.

"All right, Cotter, the rest of your schedule is cancelled. Report to Central Headquarters at once."

"What are you talking about, Rose?" I asked in confusion, and then, as an awful light seemed to dawn, "*What did I do this time?*"

"I said to CHQ at once," snapped Rose. He added, "You're in the clear. Something real big has come up. Jump!" He was gone.

What the Cosmos! I jumped; but jumping, I seethed and swore.

To get to Headquarters' Central was a manual job; my checker-ship's automatics naturally weren't keyed to *that* combination. It took several minutes to jockey into a waiting slip on the roof of HQ. They must have expected me. The auto-beams hadn't tried to blast me down. Though I'll bet they couldn't have.

A gang of groundmen in uniform were already racing out to me. They grabbed me and started to drag me along towards the drops. If I'd braked my suit, of course, they'd have had a time budging me, but I was thinking that if I were due for a spanking, it might be as well to keep my suit on.

We proceeded on the double through a series of drops, monos, slides, lifts, and vehicles that made my head spin, and in a couple of minutes were catapulted down a chute into a large hall filled with gadgets, servos, maps, men, and gizmos. I was shoved up to a pudgy officer with braids on his hat and medals on his boots; my captors let go and scattered. The general stood silent and withdrawn, gazing abstractedly just over my head. I waited, and presently his eyes slowly dropped to rest on me. They widened.

"Who are *you*?" he rasped. "What are you doing in here?"

I wished I knew. I shrugged. His shoulders and cheeks swelled angrily.

"How did you get in here?" he yelled. "Show your authorization at once, man! Where's your badge?"

I looked over my shoulder. The men who had dragged me in had turned to vacuum. I looked back at the general and smiled in friendly fashion. It didn't take.

He whirled around. "Guards!" he shouted. "Take this intruder out, and get rid of him. He's broken security."

"Cos— *cushions*, sir," I interpolated. "I didn't ask to come here. Your boys brought me off my checking schedule. If I'm not wanted, I'll get back to it." I was a bit sore.

He looked at me again, unpuffed himself, and waved the guards off me. "Oh, the checker-fellow. Why didn't you tell me so at once?" He glared at me. "You almost got shot. You're going up in just . . . fourteen minutes. Coördinate 7."

He turned away, forgetting me.

I tried to scratch my head in bewilderment, and gauntlets scraped screechingly across helmet. I desisted. People swarmed around me like bugs in a brush fire. I wandered around looking for a place to sit down, and came across Flyn Rose sitting at a console. With relief, I hurried up to him.

"Give me a clue, Flyn?"

He swivelled to look up at me. "Oh, Cotter. What a mess, hmm? Sorry it had to fall on you, kid."

"Thanks a lot. Now could you tell me just *what* has fallen on me?"

"No one really is positive, but it just might be an authentic ship of the Anarchate."

"Stop kidding. There hasn't *been* an Anarchate for a couple hundred thousand years."

"Correct," Rose agreed. "Did you notice the general atmosphere in here might suggest some occurrence out of the ordinary run of things? Or did you perchance think this normal headquarters operating procedure?"

"Uh . . . for all I know. But where could an Anarch ship have come from?"

"Heard of the Magellanics?"

"Come *off* it, Flyn! No one's ever been to the Clouds. They're much too far."

"So we have *two* impossibilities, you catch? They happen to add

up to one actual event."

I sat on the floor for want of a chair and looked up at Rose pleasantly.

"Tell me all about it, Papa," I suggested.

"In nine minutes?" asked Rose. He switched into the rapid patter he used while controlling. "The cube you brought in from the pod at Coörd 9. It was stuffed with information in dozens of languages, mostly mathematical, which may take us years to sort out. But the lead message was that the pod would be followed within an hour by a ship of the Anarchate, returning from the Lesser Magellanic Cloud."

"Hold on. How could the message be interpreted so soon? I mean, no one knows anything of the Anarchs' language, do they?"

Rose looked perplexed. "True, but . . . Cot, there's no time. Take my word on it, there was no mistake about that message. It said the ship was leaving Golgaronok—as they called the Lesser Magellanic—right after the cube. Gave the ship's size and time of arrival in terms of the period and dimensions of Randar 4—and I guess *that* hasn't changed much—and hoped there were still human beings around to greet them on arrival."

I was out of my depth. I supposed I should say something. I asked, "Does it fit? I have no idea of the distance or the time."

"Seems to fit. The Magellanics are some one hundred fifty thousand light years off, which means the ship must have left this galaxy some three hundred thousand years ago. We know the Anarchate was functioning up to about two hundred thousand years ago, and there's no reason to think they hadn't been in existence at least as long as the Amalgamate, is there?"

"Er . . . I wouldn't know, Flyn. That was a good many megayears before my ancestors joined the human race."

Rose looked interested. "I thought you were pure human stock, Oren."

"I don't think so. It doesn't show on me, but most of my clan have only five fingers to a hand. And we're mainly a lot thinner than most Randarians, you know."

"That's not necessarily racial. You do interbreed with other people, don't you?"

I grinned at him. "We could, but mostly we don't."

We both knew we were ignoring the crisis. I appreciated Rose giving my subconscious time to catch up with some of the reality.

"Then your ancestors didn't join the human race, they rejoined," he said. "They must have been lost relics of the Anarchate during

the "Tween-Times."

"I wouldn't know. I never studied history. There was just too much of it."

"Don't blame you," said Rose, sneaking a look at the clock. "What system did your ancestors come from, any idea?"

"Earth. You might not have heard of it. A star some 200 LY from here called Sun." He looked blank. "S . . . u . . . n."

"You're right. Never heard of it. What about it that I might have heard of? I've studied a little history."

That was a tough one. I thought a bit. All I could think of was tobacco and 64-square board games, both of which are claimed by every planet around.

"Have you ever come across the old 5-7-5 poems," I asked tentatively. "By ancients called Issa and Basho?"

"Hey, are they from Earth? Basho . . . something about an amphibian, how did it go?"

"It's supposed to be seventeen syllables in the original, but I can't stretch it out that long in Randarian. Something like "OLD POND/FROG JUMPS/KER-PLOP."

"Great stuff," said Rose. "I guess Earth rates a salute."

"How much more time?" I asked.

"You were supposed to go two minutes ago. Don't sweat it. Wait till you're notified."

"It's me they want?"

"You're available."

"I'll cut my carotid."

"Afterwards, please."

I tried to sum up. "Then a ship was sent out, say some three hundred kiloyears ago, under the Anarchate, to the Lesser Magellanic Cloud. The distant descendants of the original crew got there about one hundred fifty kiloyears ago, while the Galaxy was in the depths of the "Tween-Times. Unlikely as it seems, they got there both alive and capable of starting back. And now they—I mean *their* descendants—come back to the new Amalgamate."

"Precisely."

"They're lucky they didn't return during the "Tweens. No one around to stop them."

"They *couldn't* have returned sooner," observed Rose. "They're right up to space-time date. Light only travels so fast."

That was true, too.

"Maybe they haven't survived the return," I mused half wishfully. "A viable ecology population for a trip of that length . . . I

wonder how many people it's made for. What size is it supposed to be?"

Rose swung his chair away from me. "The Anarchate liked doing things to the big scale," he said briskly. "But your work is the same, for any size ship. Don't worry, Cotter."

"The size, Flynn . . . I asked you the size."

Rose looked down on me squatting there, something strange back in his eyes. "The ship you are to check," he said precisely, "is 6000 kilometers radius."

I remained calm. "You mean," I said quite as precisely, "it is 6000 *meters* radius, which is larger than any ship under the Amalgamate."

"I mean," and Flynn Rose's voice reached a degree of precision I would never be able to match, "six thousand kilometers radius period."

I giggled.

IV.

Then a voice behind me was yelling beautiful obscenities; and there was the puffed general again, asking what idiot let this moron into the imbecilic Headquarters wearing a fornicated checker-suit and didn't they realize if I scratched I'd blow the place apart. I guess I was pretty formidable. So someone told him again that I was the checker, and he shook my gauntlet and thanked me for my dedication to the service and to get the hell out of there because this thing would be in, in four and a half minutes. Everybody joins in to shove me out on the roof again. Just as we get to the roof some jerk-clerk from Physdiv comes tearing up waving an abacus, and says don't we all realize a planet-size mass suddenly laying off Randar 13 is going to add a grav-pull which will swing the whole planet right out of orbit, and somebody (me, I could see it coming) has just got to *do* something about it. His boss comes ripping after him, and says don't worry, a ship's mostly space anyway, and hasn't got a squashed lead core, and knocked the clerk down two stripes on the spot. Everyone's clapping me on the back, and telling me what a hero I am, and what a snap it's going to be. And before I can ask why I'm such a hero if it's such a snap . . .

. . . there I was in the checker-ship, a hundred kilometers off-planet, sighting for off-Coördinate 7, and the heroic grin was al-

ready sort of wearing off me. I felt like heading in-system for Randar 11 or 6, and who in Cosmos would blame me? No human born; only the Board.

Some blame fool was yelling, "Keep radio silence. Keep radio silence," on all wave lengths, till someone snuck up and garrotted him, and there *was* silence. And there I was, in the silence, slicing up to off-Coörd 7, peeling my eyes for the sudden emergence of a planet-sized ship ahead of me, when something in that concept sort of struck me between the eyes; and I stomped on full reverse and jumped back ten thousand kilometers. Not too soon, either; that ship just loomed up and smeared itself over half the sky the second I vacated. I felt like evaporating right out my pores, thinking how it would have been if I'd been way in there at off-Coörd 7, just ten kilometers from the central Coördinate itself, when that monster smashed in there.

I wasted several seconds swearing at the whole tribe of idiots back on 13 who hadn't foreseen this item. That's when I guess I really got scared. Because then I realized that not only me, but nobody else had had time to think through any of the implications of this yet.

Just then, of course, in excited squeals from my communicator, someone incoherently warned me not to go all the way in to the off-Coördinate. Thanks grounder. Radio silence, remember?

I was trying to recapture my bearings, lost when the universe flopped over two seconds back. IT had definitely arrived. In fact, IT seemed to have taken over completely. I did my best to ignore IT until my mind and belly were in better shape to cope. The instruments were being silly, I couldn't start with them.

I looked aft and left, caught with relief the familiar crescent of 13, then higher the tiny etched circular halo where my helmet polarized out the solar radiation of the primary. That gave me at least a positional plane, and I came back to my instruments with more sense of reality. The distance indicator showed I had almost 4000 kilometers of empty space around me. In spite of first impressions, I wasn't on the verge of smashing into IT.

Now I could look back at this new invader. My mind flashed several alternate versions in succession—a vast plain *down there*, an overhanging stone *up there*—and settled for a bulging wall *out there*. It was too big, it was too close, but it was once more just a separate thing within space which I could look at and come to terms with.

As I hung like a mite in space, dominated by that overween-

ingly presumptuous wall, I realized they'd have to be some terms indeed.

I was through being rushed into this affair. I spent a leisurely thirty seconds giving this thing the once-over, and the twice-over. Big? It was pockmarked with craters you could mislay the whole Headquarters Complex in... and they just dimpled its hide. I mean, it was planet-size, even if a minor planet. It was so beat up by running into vacuum at effective light speed that it didn't look artificial, just a pocky satellite. I scanned vainly for airlocks or cargo hatches, and then realized I was carrying ideas over from my checking of smaller ships. If I could have seen an opening from there, it would have been kilometers across.

While my thoughts ran largely on the asininity of letting myself get in such a situation, my fingers followed routine. They pointed the ship at the monster's side and punched APPROACH. And there I was, that orthodox four little meters over an expanse of twisted and warped and contorted metal. And it was down all right; my body felt that the instant my ship bumped gently down on the surface.

In front of me an overarching slab of metal framed a dreary landscape, wide and wild to the horizon, of tilted sheets and pointing spires and collapsed domes and canted silvers. No detectable atmosphere, said one little dial brightly. It was out of its element too.

I eyed the communicator, flipped it on. The low, uneven hiss of the Galaxy filled my ears. Nobody was speaking, no one from Randar 13, no one from the visitor... no one was keeping up the usual checking chatter, and that got to me. If they'd called the other checkers off their rounds, they meant it about radio silence. Those incoming ships *had* to be checked and shunted; there are only 24 slots to fill at 13.

I had been given no instructions, damnitall! It was usually my option to make radio contact with an incomer or not, according to whether I wanted to be expected when I boarded. All rule of thumb. I looked at my thumb; shut up and tiptoe, it said. I agreed and switched off the communicator.

I wanted, now that I was down for a moment, to for once figure out something of what I was going to do before I started doing it. I knew why the brass boys were in a rush; they didn't want Randar 13 to be blasted out of space. Simple as that. We can feel pretty confident of keeping superiority to all the ships that come in, no matter how belligerent or touchy the occupants. No ship

can possess the resources, the industrial complexes, the manpower, to make and keep up an armament array like that kept up in a 14-planet system. Until, just possibly, now. A potentially real rival to Randarian power had appeared on the premises with a bare hour's warning—and no one had any idea who manned it.

So I was supposed to go ahead and deal with it in the normal mode. The high-uppers were counting on the primary function of the sealsafe. Gaining information from past millenia was highly secondary at the moment; they wanted my transfer cube to fuse the sealsafe, so that at any moment the new arrival could be sealed safe—every energy source within it damped utterly until the occupants could be brought to heel. Thus Randar will remain on the high orbit. As I say, this function isn't something we chat about everywhere. But it's the real reason I've got to get into every new arrival fast.

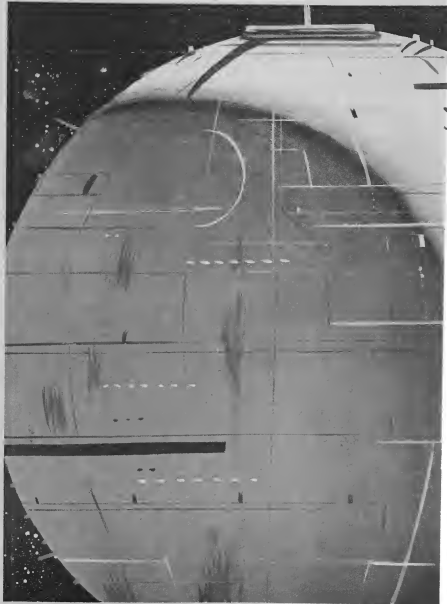
But whatever the hurry, if I didn't get the transfer and sealsafe cubes together, it wasn't going to do anybody any good. If anyone on this thing was going to start communication by blasting R-13 out of space, I could just better hope they didn't do it before I could size up the situation in a leisurely way. I wasn't planning to race in ahead of the angels.

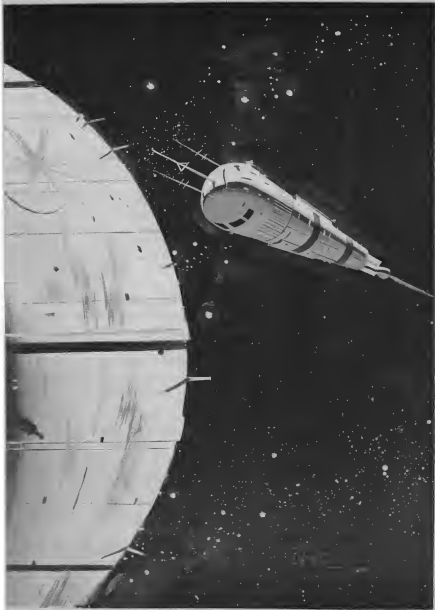
Cautiously, I squirmed backwards out of the checker and rose to my feet. I stood to mid-shin in metallic dust, collected in the hollow of this cup, and scanned the drably twisting horizon. I wondered if I couldn't legally claim this world as my own by right of first touchdown after the requisite ten-thousand year hiatus. I'd name it—what had Rose said—Golgaronok. A monstrous name for a monstrous beast.

Adjusting my personal gravity control until I was exactly at equilibrium against Golgaronok's slight pull, I read off the scale: .21 g. Then I slapped my feet against the surface and slowly rose above that surface.

Gradually, the resting checker-ship sank beneath me and my view widened. Stark and jagged, the world/ship lay beneath me. I was looking for breaks. I gave up on that when I was high enough to see to the bottom of a crater at least 400 meters deep—and unbroken. The skin of this behemoth was *thick*! I reset my gravity control to fractional weight and descended again.

Back in my checker-ship, I pondered the procedure for boarding an antique Anarchical ship. I had the vague impression that, as far as possible, the Amalgamate had tried to continue the older checking methods, procedures, and coordinates in every way.





After all, the Tween-Times was only some 90,000 years; and by the time the Amalgamate was forming in this spiral arm, survey ships of the Anarchate were still coming back from the Far Rim. If the present method of entry was based on the old, my LINKAGE button should swing me around Golgaronok until I was over the pulses from the nearest airlock, and then screw me onto threads matching my checker's. Nothing better occurred to me than to try—or else go exploring over millions of square kilometers of surface for unknown signs—so I reached for the LINKAGE button . . .

And paused.

And imaged myself in the checker-ship bumping and crunching my way over the surface of Golgaronok to the nearest airlock. Better think a little more.

Couldn't lift forward with that bulge hanging in front. And behind . . . rear-viewing, I shuddered; I had come to 'ground' in the hollow of a kind of Klein Bottle. I thought some more. Ship won't move sideways—can't swing it while lying on this surface—what about . . . ? I reached for APPROACH. Sort of in reverse, but . . .

Better think it through. . . . All right.

I pushed APPROACH the proximity adjuster sprang into action, and the ship lifted me neatly four meters off the surface. Before grav could pull me down again, I had leaped ten miles out.

Now LINKAGE. Think . . . push.

The checker ship swung smoothly around Golgaronok. The rim of Randar 13 rose above the horizon. Well enough, not blasted out yet. I'd hate to think, if it went, of all the good rotgut that would go with it.

Around and around—and then down. I swivelled to look beneath me. From the surface of the ship below, a vastly lengthening pillar was lifting priapously towards me, slowly rearing up hundreds of meters until it touched; rotated; locked . . . silence.

Somehow, I found myself muttering the very words that tradition attributes to the first human rediscoverer of Randar 4, over 50,000 years back. "Damn, I didn't think I'd make it this far." Why not? Great minds think in unison, and the great phrase is eternal.

I carefully rechecked the defenses of ship and suit, then tested the air within the airlock. This, my first clue to Golgaronok's inner conditions, offered both discouragement and relief, real heavy on the relief. Sulphur, methane, ammonia, zinc . . . no trace of oxygen. The atmospheric adjusters must have passed on

long ago, and all life with them. My spirits rose perceptibly.

I paused for the next consideration. In a usual boarding, vertical direction didn't exist; I just pushed into the larger ship in free fall. In this case, I would be swinging the airlock open beneath me—and I didn't know how far the drop would be. Again I adjusted my gravity control to weightlessness—still .21—then moved the lever and opened the lock beneath me.

Below, the extended tube of the airlock stretched down darkly for hundreds of meters until it framed a tiny pinkish circle in the distance. The light streaming down from my checker lit up a small section of it: hard, bare metal. I examined the sides of the tube, without success, for signs of a ladder. Resetting for fractional weight, I began to drop slowly down the shaft.

As I drifted down, the checker-ship vanishing in gloom above, the pink spot below hardly seeming to approach, I scanned the walls of the shaft. They swam up past me, pitted, encrusted, eroded. At times the blankness was broken by vacant roots of metallic shelves. I looked down; still a long way to drop. Words of an ancient scripture came to mind unbidden, one of the pre-space prophets, "Down, down, down, would the fall never come to an end?"

Gradually the base of the protruding column approached, only to be succeeded by more hundreds of meters of the wider tube from which it had been protruded; the pink spot glowed wider in its own good time, and abruptly I was at the bottom of the shaft. I hovered at null-grav and looked out and down on the vista.

It was . . . oh, it was just incredible.

It was like looking down on another planet through drifting pink clouds. Far down, kilometers below me, loomed ragged contour lines as of ranges of hills—or mountains. This was a *ship*? Since when did a ship have topography? And meteorological phenomena?

V.

From where I hung like an insect in the sky, curving ceilings spread smoothly out in all directions. And below, the scurrying pink mists. The light glowed evenly everywhere. It was unnerving to hang at such a height, and I moved closer to the shaft wall, but there was no place to grasp. Far down to my right I thought I could see the source of the pink clouds: a huge funnel, from which

they rose in puffs, to diffuse out into this expansive space.

Further out, what looked very like a cloudburst was moving over the distant ranges, darkening them in its passage under a downpour of, whatever it was, not water.

It looked as though someone, somewhere in this world vessel, was running at least some of the equipment, because this vast chamber collected waste. I thought I could now figure the purpose of this place. The waste products from the internal chemical and drive processes were spewn into it, and presumably were supposed to be discharged periodically into space through the airlock I had just descended. Yet it didn't appear to have been emptied for a long, long time. If those hills below were composed, as I believed, of consolidated particles solidified from this atmosphere, they spoke eloquently of geological aeons.

I searched the area at the bottom of the shaft for the communicator that should be installed here, and found it. It was a pane of shiny glass set into the metal of the wall, untarnished after all the millenia. In it I could see my suited face, and had to grin at its woebegone and put-upon expression.

I can't say why I decide things. I just have to do what *feels* right at the time. A while back I had decided to tiptoe quietly into Golaronok, mainly because I didn't know what I was getting into. Now I decided to take a chance on advertising my presence, and for the same reason: I *still* didn't know what I was getting into. And this seemed the time to find out. I thumbed the single stud beneath the glass.

There was a flickering, deep back in the glass, and my own reflection faded, to be replaced by the slowly crystallizing image of an elderly man with wrinkled canvas face, penetrating eyes, and a patch on his coveralls bearing the haphazardly meaningless non-symbol of the Anarchate—no two were supposed to have been alike. His eyes bored into mine. He spoke. It was absolutely incomprehensible.

"XXXXXXXXXXXXXXXXXXXXXXXXXXXXX"

He paused, and repeated. I couldn't wrench my eyes from his gaze, and this time I at least caught the syllabic structure of his words.

"Olastra konestai forsein kal undus merd."

He waited and said it again, his eyes still fixed on mine. And somehow it struck me that *undus* must be a form of "to teach," and *konestai* of "language."

Again he paused and repeated. This time I understood him to

say, "I shall teach you the basic *kal* of my language"; and even before he had repeated the sentence for the fifth time, I had figured out by myself that the word *kal* must mean *principles*.

The next pause was longer, but I was entranced with delight at this tutorial technique. How much study I could have saved with this approach to linguistics!

His next speech was slow and took about a minute. Again it sounded meaningless, except that the sounds interlinked and penetrated one another in a way that seemed not altogether nonsense—no more so than math or music, at least. When he finally stopped, eyes still fixed on me as I hovered before him, and then resumed speaking, it was in a conversational tone; and I understood him so naturally I thought for an instant he was speaking Standard Amalgamate.

"I have now given you the basic principles of our tongue," he said with a smile. "It is totally based on the simple mnemonic correlates I have just fed into your subconscious, and all its further structure and syntax and vocabulary are built up by procedural steps which, being in one-to-one correspondence with the human synapses, can be carried out by your brain as well as by mine—assuming, as I hope, that you *are* human. Now that you comprehend what sound patterns correlate with various basic mental units, you should have no difficulty in understanding me. I wish I would be able to understand you, but as I shall have died in Magellanic Lesser some 150 millenia before you receive this message—" he grinned wryly "that, I fear, will not be possible."

I was not watching a present individual, then, but an image from forever ago. I listened as the old man continued.

"It would be natural for you to anticipate a communications device at this spot, assuming that this is the airlock you have chosen to enter. I do not know, of course, if you are an official checker of the type we are accustomed to employ, a chance visitor, an armed raiding party. I do not know if you have heard of the Anarchs, or if we are now no longer even a memory, or if Man himself still survives in the Home Galaxy. But we have wanted to do all in our power to assure that, whatever the circumstances, the meeting between you who were left behind, and we who are wandering back from the Magellanic, goes smoothly and happily to both sides. We have wanted," and how complexly precise was the verb form he actually used and I understood, "we have wanted to make the conditions fair for yourselves as well as for our own distant descendants. We really would not know, were

there to be any real or supposed conflicts of interest, which of you to back. For we do not know what you shall have become in the 300,000 years since our separation. Nor can we be certain of the condition of our own descendants 150,000 years hence. They also may have progressed, may have stagnated, or deteriorated. But, perhaps without sufficient reason, we in some ways have been able to feel that we can be more sure of their future, which we are now planning for, than of yours, which has long been beyond our control. For protection of yourselves, should our descendants prove regressive, or the lines of progress too diverse for reconciliation, we have provided certain defenses. Of one I may speak; they will not be able to leave this ship until you on the outside have accepted them. There is a Barrier. On the other hand, you from outside will be permitted to enter at will; but you will be unable to introduce weapons. There is a Barrier.

"I wish I could go so far as to assure you that you are welcome to enter without personal danger to yourselves, but that I cannot do. If our descendants have not rejected the heritage we are passing on to them, they shall welcome you and, whoever you may be, strive to give and to receive the fruit of what our two branches of humanity may have separately achieved and become. But one would be irrational who tried to speak with assurance of the behavior of his offspring of the 6000th generation. Whoever you are, wherever you came from, consider this: what has happened to *your* line of descent in the past 150,000 years?" He paused, as if expecting a response. I had none.

"So enter if you will, but enter with due caution," said the image. "We hope our arrangements have made it impossible for you to harm the people of the ship, or for them to harm at least those of you who remain outside the Barrier. More we cannot do."

His voice grew more informal. "Now you won't easily be able to go straight down from here." His image faded and was replaced by a schematic diagram. "After departure, this air-lock antechamber is slated to become a waste-deposit area."

A pulsing blob of light must indicate my present position. I strained to make sense of the tightly cross-hatched lines, following perspective conventions I couldn't quite grasp.

"Remember," the old man was continuing, "you have a long way to go yet. You can descend most quickly—unless things have changed more than we hope—by taking the passage which will open behind you on completion of this message." The view of the schematic drew back, and a glowing line extended itself from the

blob, as more complexities flowed into view. I tried to memorize as rapidly as possible as the route wove through gathering webs of multi-colored lines.

"In about one ten-thousandth of the circumference of the Ship you will arrive at a shaft, down which you may drop for about half that distance." The line stopped moving and red-shifted sharply . . . representing vertical descent?

"I cannot advise you of the geography or ecology of individual floors, as they are due for periodic change, but the stairs down to the elevators should remain; on the stairs you will meet the Barrier. Deposit your weapons and defenses there; they will be kept safely for your return." The view had continued to retreat. By now it must be covering square kilometers. I was losing track of the route, and wished he'd decelerate a bit.

The line marking the route ceased its crawl and abruptly dopplered into visibility. "The elevators will take you as deep as you desire. I suggest you head for the Administrative Offices on Floor 10 to the 5th. At least," he added, "we have so arranged the layout of the ship that whoever has overall administrative authority under *any* social structure almost necessarily has to be in that area—or else whoever *is* in that area will find themselves administrators. Why not stop in there first?"

The view had continued to pull back and back, and I could now see the whole vast arc of the ship onioning in towards the center in round after round of closely packed circular layers, far too numerous to count. Then the diagram was replaced once again by the old Anarch's wistful smile.

He looked out of the glass at my future unborn presence. "That's all, I guess," he said at last. "I hate to break it off, though. There is such incommunicable possibility for both optimism and pessimism in our futures, so much of joy and sorrow in such a touching of the endless years with our individual lives. I am not a Survey Ship man at heart; two hundred years ago I was born on the second planet touched in the cloud. I was old enough to remember when the ship left my family on a world reached later. I have grown up here on Raxnix since I was nine, and its land and seas are my home. Now the ship has stopped here again on its way Galaxyward from the heart of the cloud. Some of us are to stay; most, my sons among them, start the return. I shall stay. I would not want to die without the Home Galaxy blazing in my sky.

"But the whole is more than the mere sum of our individual

short lives . . . the many whose home is a planet, the many whose home is a ship. Each of us lives his life in relation to his own brief time and narrow spot—and it is only with a rare and holy shock that we realize that we are at a turning point in something far vaster than we had realized. The ship is turning homeward; what that means to any individual, it means infinitely more to Man. And to you, the ship has returned. Good luck; and, people of home, be kind to your returning brothers."

Again he smiled sadly, sighed, raised his hand in farewell. He was gone.

I waited a moment, feeling an odd sense of loss, and then pushed the stud again. No response. He was really gone.

"Someday we'll meet again," I said to the noncommittal glass, "at another airlock." I turned. In the metal side of the shaft across from me a valve had yawned. Kicking off with my feet, I floated through.

Far ahead of me stretched the passage; and with an occasional flick of my fingers along the side, I made good speed. The pink glow from behind faded, but the walls continued to glow in dim phosphorescence. I swam on, stroke after stroke, and came to the vertical shaft. It was another cylinder stretching down to a tiny circle below; this time the patch of light at the bottom was green. I pushed out towards the center of the shaft.

"Don't foul the line!"

If one could jump a meter in free-fall . . . I spun onto my back and, floating, looked up. A few meters above me, seated with legs dangling from a metal shelf just over the passage opening, a small boy gazed solemnly down at me. He seemed normal enough: stocky, lethargic, with bright yellow hair. From his hand extended a stick, held out over the shaft.

I hovered, and my heart started up again.

"If you can help it, mister," he said again, "please don't foul the line." He used the language I had known for some minutes now. I replied easily in the same.

"Excuse me," I managed, trying to be matter-of-fact about it. "I was just going down."

From the end of his stick a thin line dangled down past me into the shaft below.

"Long way to anywheres," he volunteered. "That's if you was going anywheres."

I was checking my wrist meters—somewhere on my way to this point I had entered highly breathable atmosphere. "Um . . .

where are the Administrative Offices, son?"

"Never heard of them. Is it in Vrynn?"

I considered a moment. "Any idea who lives on Floor 10 to the 5th?"

"Gosh, Mister," he said. "That's the address of the Recollectors, ain't it? That sure *is* some ways. I haven't never been nowheres inships."

"Where do you live?" I asked, still floating on my back.

"In Vrynn," he gestured vaguely *up* the shaft above him.

"I see." I felt some social embarrassment at having to break off the conversation so soon, but I *was* in a hurry . . . "Bye, now, son."

"S'long, Mister. Remember not to foul the line."

I adjusted my weight slightly and drifted down from him along the side of the shaft. In front of me dangled that ridiculous line. It was a full hundred meters before I reached the end of it. A cluster of large, bluish birds which were swarming and hovering around the end of the line scattered at my approach, so I never did get to see one hooked.

Slowly the green circle expanded, and finally I dropped into a green space. The view from the outlet of the shaft was not so overpowering as the first I had dropped into, in this world. The ground was less than fifty meters beneath me. I suppose technically it should be called "deck," but somehow I thought of it as ground—for one reason, it was being farmed.

Furrowed soil stretched off into the distance on every side. It was an ample expanse, as wide and unconfined as one of the warm inner planets. But the ceiling was low and reached with a gentle curve to meet the land at a horizon as far as that on Randar 4. All was ploughed land, sprinkled with a few scattered sod houses at field corners. Below me a man was treading leisurely behind a plowing ox. A normal man, a normal plow, a normal ox . . . except, as I saw in my descent, that it had only two horns.

The farmer looked up and, seeing me over his head, waved pleasantly.

"Excuse me for troubling you," I called down, my words coming out in the old language unthought. "Could you tell me where to find the stairs to the elevators?"

He jerked a thumb back over his shoulder. "Two fields north, one east, at the corner mark," he called up. "Straight down to the 'vators. Time for a bite of something, stranger?"

"Not this time, thanks," I called down. I was certainly getting favorable first impressions of the Golgaronokites. "Maybe if I pass

through again."

Cheerily he waved again and turned nonchalantly back to his plowing. My conclusion had to be that folks must do some floating around up here on their own at times, even before I came. And plowed their fields and fished for birds. Real homey.

I drifted over the fields to the indicated corner and deposited myself on the first of a long descending series of steps leading into the depths. The upper three meters were cut through soil, and then smooth artificial walls luminesced a white glow. I cut off from null-grav once my feet were on the steps. Weight was still under a fourth of standard, enough to keep me down. I had a brief thought of all the little ships fast piling up, out in the worlds I came from, and then wrenched my mind back to present business. I started down, eyes searching for the promised Barrier.

I wasn't left in doubt when I hit it.

VI.

One minute I was peacefully treading down the stairs in the graceful strides of low gravity. The next I was invisibly plucked up and flung back bodily, suit and all. As I cautiously picked myself up, a voice from nowhere began gently chiding.

"Weapons and defensive apparatus are not to be brought within these boundaries," it said sweetly. "Please place your Q-screen; energy absorber; paralysers; and X-, Y-, and Z-beams in the niche to your right. They will not be touched until your return. Click."

I ignored these directions and approached the invisible screen more warily. It would seem the anarchy had been aware of our most advanced paraphernalia. Had they also known how to counter them?

I took slow steps forward until I felt a pressure against my suit, pushing me back a few centimeters. I shoved harder, and rebounded a meter. Nothing was visible but the continuous stairway leading down. I brought up my X-beam, and gave a little squirt. Nothing happened. I played it back and forth, cut it, and reached my hand out. The obstruction was still there; no give. I removed my hand from the suit and stretched it forward. It passed without resistance until my shoulder was abruptly forced back where my suit began.

Fascinating!

I backed up the stairs ten meters and tried my Y-beam. The

corridor filled with corruscations. I kept it up until I began to grow warm even inside my suit screens. Then I cut it, waited a couple of minutes for the surfaces to cool down, and returned to the Barrier.

Boingggg!

I could hardly believe it. I admit I was leery of using the Z-beam. I didn't really know if it was more ultimate than my Q-screen or not. I backed up a real distance for this one, unlimbered the Z-projector, set it for a millisecond, pointed it downstairs, and pressed the stud. There was a *whump*, and I was knocked back on my reclamation unit. A voice shouted from down the steps:

"What in Creation you trying to do, there?"

I blinked my eyes. The stairwell was filled with roiling haze, shot through with short dying arcs of flame as quarkal redistribution levelled out. Dazedly I got to my feet and descended again. A man was standing on the other side of the Barrier. The air on his side was undisturbed. He was tall and dark, with jutting nose and furious eyes. As I appeared through the haze he spoke sharply.

"You a nut or something? I thought it was a kid! You know if I'd already passed over I might have been hurt?" He glared at me, snorted, forgot me. Stretching out his hand, he pressed it against the Barrier. The voice rang out:

"Dwellers within the world of the Ship are not to pass beyond this point at this time. Please return to lower decks. Information concerning points higher than this may be attained from Computer Deck, 12,600 North or South. Physical passage at this time is absolutely forbidden. Click."

The man answered calmly. "I am not a dweller within the world of the Ship. I wish no information from above this point. I am already beyond this point. I do not intend to pass physically. It is no longer this time. Please countermand decision."

The voice from the air hiccupped slightly and spoke again. "Any human within the Barrier is a dweller within the world of the Ship by definition. You are now standing within the Barrier. The purpose of your attempt to pass is irrelevant; reference to information was made only for your benefit. If you actually wish to pass in a non-physical manner, only your physical body will be halted. It is now precisely now, as of this moment."

"But it is no longer of this moment," countered the man reasonably. "At the present time, this moment surely cannot be the one you previously referred to. I appeal to the 4th retractible equation

in Fargut's redaction. Therefore your decision is inadequate. The physicality of my body is an unwarranted assumption, pending verification or otherwise of the Ruvel-Forst-Ganywire hypothesis of sixth-level psychogolic integration. Thus your decision is arbitrary. The point at which I was on the inside of the Barrier, moreover, has now become, in space-time point of fact, a point at which I am on the other side of the Barrier. I appeal to the equations of the galactic expansion, the computations of the ship's course, and the principle of irrelation. Therefore I am not trying to pass, but to return, and your decision is irrelevant. Finally, I resent your implication that I am a human. Please define 'human' and I shall show you that it is impossible to include me in any such category. In short, please countermand decision."

The voice was not cowed. It settled down to a point by point defense. "Though otherness may tentatively be predicated of the so-called present moment as ascertained by Fargut, this in turn presupposes a constant factor of differentiation between any and all temporal breaks in continuity . . ." mounting into arguments and allusions I couldn't begin to follow. Then the man answered, and several more exchanges took place before the battle ended with the capitulation of the voice. It admitted in a somewhat depressed tone:

"It seems logically conceivable that, at least on the eighth level of psychogolic integration, you might equally validly be regarded as trying to return within the Barrier as trying to pass it. Under these circumstances, your return is allowed." It ended on a moody afterthought. "Please do not repeat this conversation to anyone. Click."

The man strolled through the invisible Barrier and on up the stairs. At the same moment I tried to get past in the other direction and ended up with what felt like a dislocated shoulder, still on the up side.

Desperately I called up to the ascending man. "Hey, there." He turned. He seemed to have completely forgotten me. "Does everybody get through like that?"

"For tens of thousands of years, Mister. Know any other way to do it?" he replied casually.

I felt very close to spoiling my dubious native cover, but if I couldn't go on, my mission was a scrub anyway. "How do you get weapons in, then?"

His eyes stared indifferently down at me. "Don't know, Mister. Tens of thousands of years, nobody's felt a need to."

"But isn't that regulation only supposed to guard us against the . . . the people outside the ship?"

His eyes at last focussed on me. "Might be, for all I know, Mister. But and how's a machine to know who's from outside? Just has to stop everybody. Not that there's any use to that. If people from outside, and if there is any, wants to get weapons in some-days, reckon they'll bollix the computers quick as we does. A comp's a comp, friend."

He seemed to be eyeing me with somewhat more interest.

"But don't you know?" I burst out at random. "The ship has stopped at last. Now's when they're coming. Now's when we need the weapons for protection." I knew I was talking utter balderdash, but surely there was some way I could enlist his help. I just *couldn't* give up in the middle of a checking mission. All I was doing was making myself feel more and more conspicuous. I must stick out like a heavy isotope under a disintegration-counter. But this fellow didn't seem to really care.

"You might know all that," he commented, "and if you were one of them out there yourself, but sure no one that's of the Ship would know a thing like that for certain." He paused a long space, eyes fixed on me, drifting between curiosity and indifference. The latter won, and he resumed his climb. Behind him floated down a little snatch of doggerel:

"Some as says my love she shines,
Some as says she don't . . . oh.
Some as says the Ship'll stop,
Some as says it won't . . . oh."

And he was gone.

I sat pondering for a long time before I came to a few highly obvious conclusions.

The first was that I am just simply too dumb to figure out anything actually *new*. I told you I wasn't necessarily chosen for my intellect. I just couldn't figure out a dodge to get past the Barrier with my weapons and defenses; nor could I figure out what was going on in this planet-ship I was crawling into. I suppose a bright guy would have been piecing together all the clues I'd been hearing and seeing, and have a nice consistent picture of what the deal was by then. But me, I still haven't got it.

My second conclusion was that I was a pretty pure specimen of coward. Here I'd thought me a real indomitable customer, going

into dangerous places and out again with a whole skin, real cool about it all. Well, come to think about it, who couldn't do all I've done, in a Q-screen checker-suit? The mere thought of going *on*, *without* my suit, sort of shrivelled me up. Just me? Naked? Or as good as. Suppose something *fell* on me!

And third, I knew I just had to do it. It seemed to me I hadn't really been deserving the pay I'd been getting all this time. Well, now I had a chance to make it up to the Board at one shot.

I returned to the Barrier for a last attempt to pass unstripped. I looked around in vain for a direction to talk to, and then said:

"You are supposed to stop the passage of weapons. My Q-suit is not a weapon; therefore there is no reason to prevent its passage. You are supposed to stop the passage of defensive apparatus. My Z-beam is not a defensive apparatus; therefore there is no reason to prevent its passage. Please countermand decision."

"No!" answered the voice brusquely and then, after a moment's pause, "I have never heard a more illogical proposition."

I glared at the wall, and sat on the steps a while. Then I said, "Defensive units are not permitted. I call your attention to the plural form of the word 'units'. I only propose to cross with a single, teensy-weensy defensive unit—"

"No!" interrupted the voice adamantly; and then, impatiently, "Weapons and defensive apparatus are not to be brought within these boundaries . . ." and all the way through to the final "click."

"I don't suppose it matters that all this is for peaceful, constructive, humanitarian purposes," I muttered, but I didn't expect much from that one. This time, the voice deigned not to answer.

What could I do? The machines might be dumb, but they were brighter than me. I'm just not a brain, is all there is to it. I clenched my fists in frustration . . . it just wasn't fair. These characters inside Golgaronok had broken the rules, could get out at us all they wanted to, and we couldn't get in at *them*. All the old Anarchical plans so carefully laid for our protection all those ages ago were absolutely wasted. It wasn't fair!

Slowly I removed my checker-suit with all its impregnable and unstoppable arsenal, and laid it in the niche along the stairway. I sure hoped the voice was right about nobody touching it, for it would kill them. I looked a while at my food package, containing a single meal for mid-watch, and wondered what the real time was. My chrono told me I'd been on the way for 10 and a half hours, or 20 and a half, or only a half. None of them seemed right.

I wasn't hungry, but I ate what I had. All I could think was, at breakfast I had never even heard of this place I'm in! At last I took the transfer cube from the suit chest pocket. If I couldn't get that over there was no real reason for me to go on down. A sudden hope swept over me that I would be given a rational reason for turning back, then choking shame for hoping that. Let's see if a potential damping-fuse is regarded as a weapon. I returned to the Barrier clutching it as unobtrusively as possible, struck a pose before the boundary, and said confidently, "I've left my stuff. May I cross now?"

"Try it and see," said the voice noncommittally.

I cautiously leaned forward against the Barrier. It wasn't there, and I almost plunged head-first down the stairs. I caught my footing, thanks to low gravity, and whirled to glare at the invisible voice. It didn't even chuckle.

But I had the cube.

So, turning, I beat it down the stairs again, feeling as naked in my coveralls as a shell-less shellfish.

At the third or fourth curve of the flight of stairs, I reached the end of the descent. The lowest step was washed by rippling water. Coming out under an arched gate, I found myself looking out over a wide inland sea.

I'm not kidding! A real sea, with a soft breeze wrinkling the blue surface into white-caps, the smell of salt and kelp, and a small fleet of rigged sailing vessels in the offing. I know a sea when I see one; I grew up on the shores of the Polar Gulf on Randar 2.

I had barely time to wonder if this sea could possibly stretch clear around the ship on this level when, from some sort of small craft pulled up beside the lowest step, a local stood up as I approached, bowed with easy deference, and ushered me. Like a clockwork windup I let myself be led, and before I had been on this level for two minutes, I was swaying uncomfortably in the middle of blue water, and the lapping wavelets at the base of the gray lift of wall where the steps emerged were retreating behind us.

I looked around uneasily. A warmth was beating down from overhead, and I had time to see that the blue of the water was a reflection of the blue sheen of the spreading ceiling, and that some sort of life stirred in the waters. My new companion was silent, somehow propelling the vessel through the sea by the repeated insertion into the water of a long stick, shaped like the

blade of a propellor, but so far as I could tell, without moving parts. We did not travel rapidly, but it was not long before my companion pointed across the water and spoke for the first time.

"The elevators are yonder, sire. You do be in good time for next embarking. May good be with you in wayfarings to come, and pay the people of Sea with kind remembrance in your thought."

I glanced at the speaker with fresh interest, the voice bringing to me what cropped hair, tanned skin, and pastiche robe had not, that my conveyer was a woman. Then I looked in the direction she had indicated.

A hundred meters of metal wall rose out of the water ahead, lifting a shaft to the overhead sky-ceiling. As we pulled nearer, I could see many little boats tossing alongside gates in the wall. The skiff I rode in entered among the others, rocking gently to the backswell from the wall. My guide waved to persons in other vessels, and greetings wafted cheerily across the waters. I didn't see anything like a motor or machine in use.

I became aware of a rapidly growing wheeze of sound; nothing was visible as its source. It mounted to a crescendo and abruptly ceased; in a moment the nearest gate retracted into the wall, and I saw within a large chamber filled with people, raised a few meters above the level of the water. The boats pulled in closer; people were clambering into them from the chamber; others were climbing from the boats up through the gates, and I felt myself being hoisted in with them. I was a floating chip, pushed about by my own passivity. But what to do but keep moving?

The gate closed behind me, and I looked about as the other newcomers scattered away. The room was a good hundred meters square, and full of people, several hundred at least, sitting on benches, drinking at fountains, wandering about deep in conversation. The number of different physiques, skin hues, and costumes was staggering; in fact, I wasn't sure I could see two people of the same appearance. I began to feel less conspicuous than I had feared. As I looked around for the elevators, the gate behind me slid open again. I looked out to find the sea evaporated, and in its place a tangle of jungly vegetation interpolated with winding paths from which more people were already emerging to clamber into the chamber. Just for a moment I wondered what had changed sea to jungle, and then realized that I was *in* the elevator. A large, noiseless, vibrationless elevator; I couldn't even tell if we were going up or down. Well, I guessed we couldn't go very far if it was up. But there must be a lot of room to go down

in. As the door closed again, I strained to feel or hear any motion, but it was no use. But I did notice lights flashing out over the gate in numbered series; as I watched 7 turned to 8, and again the gates opened noiselessly—this time on grassy meadows, with a small cluster of low shingled houses visible some kilometers away. The next two levels lacked visibility. The 9th was shrouded in haze, while the 10th was blocked by a blank wall a few meters away—and suddenly I realized that everybody was getting off here. I wondered at the abrupt end of the line, but followed the pack quietly. Some of the others streamed to left or right along the cobbled street and halted in front of the facing wall. So I joined them, feeling a trifle foolish; hundreds of us silently eyeing a featureless wall. But I was getting the idea into my thick head that this was the transfer from local to express. For once, I was right.

But rather than a gate opening, the whole wide wall rolled straight up in the air, and I was looking in on the grand-daddy of all elevators. Within were crowds of swarming people, rows of small buildings. I could see at least half a kilometer, and still wasn't sure I could see the far side. But the crowd was pushing in, and me with them. The wall rolled down behind us.

Immediately I turned to look up over the gate. There was another series of numbers—the first 0, the second 10, which was lit, and on in multiples of 10, to 100. I figured, at fifty meters a level, that would still take me only five kilometers deep into the planet-ship. But I could expect that there would be a super-express elevator to take me to the 1000-level, 50 kilometers down, and a super² express to take me 500 kilometers down, and a super³ express to take me 5000 kilometers down, which was nearly to the center. I grinned to myself at the ease with which I accepted the situation, and then I *did* feel it. It hit me like I was beamed between the eyes . . .

Oren screamed. He kept screaming for a long time. At last it died away, and slowly he found himself buckled in the chair, sweat rolling down his face. The Examiner was holding him gently and smoothing his hair.

"There, now, Oren, it's all right, boy. Take it easy. I should have expected it."

Oren gasped, tried to regain control of himself. "I . . . I really was there again. You made me live through it all again."

"You did it yourself, Oren. I just made it easy for you." The

Examiner let go, looked carefully at Oren, and returned to his own chair. Seating himself, he smiled wryly at the checker-pilot. "My fault, though. There are some depths of experience that break through any hypnotic block. Even the most insensitive man . . . Not you, you understand."

Oren pulled himself together. "Oh, that's me, all right. I'm not supposed to be sensitive, given my work. But," he shuddered, "it did get to me then."

"Naturally so," agreed the Examiner. "But I should have stopped the interview before it reached that point. I've already gained enough information to show that we'll need far more than you can give us alone. But—Oren, I couldn't let you stop." He leaned forward, eyes glowing with excitement. "It's fantastic! These glimpses you give of a culture so complex it approaches our own." A sombre expression chased the excitement off his fluid features. "Let me add, you also may have presented us with as large a problem as we've faced for a very long time. Survival itself may be at stake."

Oren asked, "Ours or theirs?"

"Well, I have no choice but to think of Randar first," pointed out the Examiner. "Golgaronok, as you call it, certainly conveys an aura of threat, wouldn't you say? You tell me. You're the only person from Randar to get into that ship yet. Are they dangerous?"

"I don't know. The technology, the sheer size of it, is formidable. The people I met didn't seem at all aggressive. There was just so much I didn't see."

"Be hard-headed, Oren. I'll have to be. Will they attack Randar?"

"I don't know, sir. They seemed likable. I didn't meet their leaders I don't think."

"What of their capabilities? *Could* they destroy Randar?"

"I don't know," Oren repeated, feeling inane. "The ship is a miracle of construction. But it was built three hundred thousand years ago and just seems to keep going. I don't know what the people in there now can do."

The Examiner rose and paced the room. He turned to Oren. "Listen carefully. The heaviest arsenal of Randar is concentrated around this Anarch ship at the moment, or bound outward from the inner worlds. It may be possible to destroy it now. It may not be later. Should it be destroyed?"

"I don't know," said Oren, and then jerked upright. "Destroyed?"

Destroyed! All those people?"

"That was the question," said the Examiner. "You have observed Golgaronok. Can Randar trust them? Dare Randar assume they are benevolent or weak?"

"Trust, destroy," Oren buried his face in his palms, then looked up. "What about learn? That ship, what's in it, who's in it, what they know . . . We can't just blow it up without trying to learn . . . and all those people."

"Then just what does Randar do with this monster dumped on its doorstep, threatening its existence, its way of life?"

"It learns and it teaches," said Oren, taken aback by his temerity. "It does what it always does with any ship of any size. It finds out what's happening where it's come from, what the present situation inside is, and it brings the passengers back to civilization, helps them readjust to the mainstream of humanity. That's what we're supposed to do. I say that's what we should do now."

The Examiner stood, eyes downcast, for a time. Then he looked up, and said, "Thank you, Cotter Oren. That is most helpful. But insufficient. We must learn more. Which means you must continue your descent into Golgaronok. But not now. You need several days of sleep. Do you know your present condition? Look at your arm."

Oren raised his arm, and rolled back the ragged ends of his coverall sleeve. The shape of the bones beneath the skin was easily apparent.

"If I didn't have you under hypnosis," continued the other, "your mind would be in the same condition as your body. And—though I don't want to worry you—if I kept going too much longer by this method, you'd feel perfectly fine until I let you out of it . . . and then you'd quite possibly be dead."

"So the examination is over?"

"For the present."

"Then I have one question, sir. Did I get the cube to the Center all right? Did I make the transfer?"

The Examiner frowned. "I can't tell you."

Oren was startled by the sudden anger that poured into him. He found himself rising, looming over the little inquisitor. "You said you'd tell me everything after the Examination. You'd better tell me that! Did I carry out my mission? You've got to tell me!"

The Examiner had risen also. He seemed as furious as Oren. He yelled back, "Don't be a fool, Oren! The answer's in *your* mind! Do *you* remember?"

Oren took a step back and commenced kneading his forehead spasmodically. "No, sir," he said at last, quietly. "I only remember as far as you've helped me, actually." He paused, then, "I'm sorry I misunderstood. Could you tell me how I got back out, then? By myself?"

The Examiner smiled. "Sit back in your chair. While I remove the hypnosis."

Oren leaned back. He tried to make some over-all sense out of what he had been remembering, tried to push past the barrier of memory at which the interrogation had stopped, tried to forget it all simultaneously . . . and suddenly he had time enough only to feel that tons of dark sand were pouring on his head, sands of uttermost exhaustion and fatigue and disability and weakness, and he was as if snuffed out of existence. . . .

VII.

Gradually Cotter Oren's mind fell out of nothingness into a semblance of existence. To exist was to fall, to drop deeper and deeper towards the center. To transfer to larger and larger elevators, descending deeper and deeper into a world, a universe, Galgaronok.

He lingered near the wall that opened. It didn't go up at every stop. Sometimes he could see the wall far off to the right or left rising or falling. When the nearest wall rose the scenery was always different: farms, forests, parks, occasionally villages, once a fair-sized city—all reminiscent of scenes on the planets, but all with lowering roofs some 30 to 40 meters overhead. A vertical culture, Oren thought vaguely. Sometimes the views were unbelievable and incomprehensible, and then something in Oren reminded him that this was not the real experience, but a later hypnotic recollection of it; and something subjective must have gotten mixed into his memories. There could be no real Level 40,000 as the one he looked at, for instance, not in the *actual* universe.

The numbers mounted steadily as the elevator presumably dropped, and he began to notice the narrowing in of the horizon. At first he wasn't sure, but as time passed there could be no doubt. The horizon was much closer than it had been.

"Can you hear me, Oren? Is everything all right?" The voice was unplaced, inner.

Oren looked around the memoried elevator. "Is that you, Examiner? Are you still investigating?"

"Yes, Oren," came the voice of the little man who was nowhere. "But this time I'm sticking closer to you. No more recurrence of what happened before. Do you feel all right?"

"Perfectly."

"Very good. If there is any problem, just say so, or think it. I'm right with you. You understand you are in memory."

"Oh, yes, sir. But it's very real."

"Of course," came the other's voice. "As a matter of fact, it's every bit as real as what you experienced on your previous descent, although it *is* your memory. Memories are quite real things, you know. But with a proper guide, not so dangerous. I do digress, don't I? I'll be in touch."

Back at the entry wall, the numbers above marked the 70,000th Level. No comment.

Down.

He noticed a man bent over a water fountain, and realized a parching thirst. And yet he knew he was asleep, really, and had been well nourished, but he knew he must act his thirst, for it had been real once. He wondered if he might not be poisoned by Golgaronok water, but decided to risk it. When the man departed, he crossed to the fountain and bent over it, only to find no ascertainable means of operation. No knobs, switches, buttons, dials or handles; he bent down, no footles either. Backing away in embarrassment, he watched carefully as a woman in mufti approached. She leaned over the fountain, water spurted, she drank and left. A little boy darted up, tiptoed at the fountain, and lapped up water as it gushed. He saw no mechanism. Pausing until the current of to-and-fro in this corridor ebbed, Oren hastily leaped to the fountain and bent over it. Nothing happened. With a curse, he hurried away before he became conspicuous.

He watched for Level 100,000, the address of the Recollectors. It was unlike any of the other decks. Long radial corridors stretched away in each direction, straight rows of metal floor and wall following the curve of the world to the vanishing point at the horizon. They were empty; far down one of them, a solitary figure moved. No one got off; no one got on.

He left the elevator briefly at Level 140,000. The time between stops on the super express was a good part of an hour, and he had needs he had not seen anyone else fulfilling. Level 140,000

seemed rural enough for his purpose.

Those who had left the elevator with him had soon strolled off on lanes through the fields of velvety-tasselled grain, leaving him alone by the base of the huge metal shaft housing the super express. Warmth and light bathed him, perhaps irradiated from the low ceiling. His eye was caught by a large square opening in the metal ceiling, and he wandered through the fields towards it. Beneath it he came to an identical square opening in the floor, railed about at waist level.

He looked up. The well rose through level after level until it closed to a pinpoint far above and vanished. Some of the levels were darkened wedges in the shaft; night-time regions, he guessed. Three levels, only one hundred meters up, a face was leaning out from a small shrubbery-covered balcony and looking back down at him. It was hard to see details, but something in Oren's spine tightened, and something in his mind said, "Not human." The face waved something that might not have been a hand. Oren paused, waved back stiffly, and looked down the shaft.

The mirror of upwards, the shaft plunged forever into the depths. A few floors down, a sparkling trill of water rushed over the edge of the well and trembled down, down, down away from him, catching the varied hues from the floors it passed, an endless waterfall vanishing kilometers beneath him.

Oren returned to the elevator in time for the next arrival. Time passed.

"Are you there, sir?" asked Oren silently.

"Yes, Oren," came the reply.

"I think we're at the bottom," said Oren. "Level 180,000 and everyone's getting out, that is, all the last dozen or so left in here. They're all wandering over to the wall on the left, and I'm following them. I don't want to be the last person left, and go up again, or wind up with the elevator in storage somewhere. It can't be much farther to the center, anyway. I'm pretty weak from hunger, I guess, and tension, and my legs are wobbly, but I'm going on as long as I can. You want to know all this?"

"Perfect," said the Examiner from another universe, where Oren imagined him standing over his sleeping body. "Just what I want. Keep vocalizing, if you want."

"Well, we're standing beside the wall, as I say, about a dozen of us. The guy next to me is a beautiful ruddy color, stripped to the waist. He's got something slung over his shoulder that looks sort

of like a fan fruit the size of a marsh pig. It's hard to keep my eyes off of him.

"Now the wall is rolling up, and my companions are trotting out jovially. Me, I take one look and gulp. Ahead of me, as far as I can see, below, above, stretch spindly girders off into the distance, like a gigantic spider web. And they're not straight; they curve downwards. As I watch, the figures of those who have just left the elevator ahead of me trot easily away, get smaller, their heads tilting farther and farther away from me as they depart around the curving beams. I step quickly out on the nearest girder, and shut my eyes as the wall clangs down behind me.

"It's just the close curvature in here, I keep thinking. We're near the center, it's curved like a small planetoid. And the weight's so near to nothing, I can hardly hurt myself. So with this consolation, I peek a bit. Ahead of me the girder curves forward and down like a chute to the abyss. I can imagine myself a few hundred meters ahead, beginning to slide down it, faster and faster until it drops me off into nothing. All the pedestrians ahead have vanished down their girders.

"I raise my head slowly. Girders above girders in infinite arching series, criss-crossing until their forms are lost in the gloom, kilometers up. Each glow golden, except where black shadows cut across them. And that tells me that the light comes from below.

"I look down, a little more abruptly than I had planned. A golden glow mounts from below, caressing my eyes from far beneath more kilometers of girders. I look back; the huge square shaft that houses the elevator ends here. Within it, I suppose, the elevator is again lifting towards the far surface of Golgaronok, thousands of kilometers above. I catch my breath; I am alone at the center of a world.

"The gravity is very light. I can't explain my planet-hog sense of nausea, except that this whole place is so planet-like in its extent and contents, not like the emptiness of clear outer space. But here at the center of Golgaronok, I'm almost suspended between the opposing pulls from opposite hemispheres of the planet-ship. That gives me more confidence. I'm used to free-fall. I give a little hop, and time my drift down to my girder with my pulse. Next to nil. I won't get to the center very fast without a little extra push of my own.

I peer down again. About ten meters below, a lower bar cuts across the direction of mine, at about the right distance for a practice hop. I blink into the light, poise myself, flick off, away

from my solid beam. For about ten seconds I drift downward, and come to rest on the lower bar. Easy as falling off a girder, I think, as my legs crumple under me and my nose bumps the metal nastily. I sit up and wipe it, comes blood. Then I start rubbing my legs to restore some circulation. I forgive them, though; I've been giving them a rough time.

"I wait till I feel up to it again, then I begin descending. It's an odd plunge; rather terrifying at first in its lonely strangeness, then slowly becoming calm and tranquil. It's like a dream, dropping gradually and silently down towards the golden center rising towards me, barely grazing a girder every few hundred meters to brake my fall and sight for the next trajectory. Profoundly easing, this methodical rhythm of plunge, brake, and push off. I forget my hunger, thirst, weariness, and what will happen next.

"There is no warning. One minute I am pushing gently off from a beam for the hundredth time, the next all the beams have swept up past me, and I'm dropping into a vast open emptiness. I look around desperately for my next foothold. There is none. Above me, or maybe behind me, the network of spidery bars retreats into distance, and I drop into the golden glow. I see my diminishing shadow black on the retreating girders.

"Damn me for a fool! I swing to face inward. And now I can see where I am going. I am at the center.

"Far ahead of me, like an orange sun, a gleaming spherical structure lies before me. It lies, a sparkling nucleus to the worldship, almost—but not quite—in my path. Unless it's got more mass than I think, I'm going to miss it.

"It seems to move up towards me, though I know that it is I that am falling. It looms and shows itself as unmarked golden surface; then closer, several small openings are visible. It must be several hundred meters across. No, ten times that . . . I see a man on it.

"A small speck is moving here and there over its looming surface. It is certainly a man; he looks up and notices me. For a long moment he gazes up at me drifting helplessly through his zenith. He waves a hand briskly and turns back to his work.

"I try to croak out for help, but I have no throat. I watch while the fellow obviously keeps to whatever he is doing (and what in Cosmos does he think *I'm* doing up here?), and the golden ball begins to drop away from me. My senses are spinning, and as I try to recapture them, they fade. . . ."

§ § §



"Oren," came the voice of the Examiner, "let's pass over to the other side of your period of coma now."

"Holy nova!" retorted Oren, spinning deadly in nothingness, lying asleep in an unknown room, "I forgot again that I'm only remembering!"

"A one-hundred-percent full-sensory induced recollection, indistinguishable from the real thing," said the Examiner, perhaps a tint of pride in his voice. "You're controlling yourself quite well. Now, when you became conscious again . . . ?"

"I don't know how much later it is. I seem to come to when something gently nudges me, and open my eyes. There is a horrid noise near my ear. My eyes focus a bit, and I seem to be eddying among metallically curved beams. A bird crossed where I am looking, a green and blue and squawking bird. And then the beams seem to fall away from me, I am rising upward into a golden light, and then. . . ."

Oren paused a long time, and then resumed. "This is how it is. Something touched my face softly. Someone looking at me. Someone saying, 'Excuse me for disturbing you, sir, but you are dying. Is it by your own intent, or do you desire assistance?'

"Somehow it seems a rational question. I manage to gasp out 'Assistance.' A moment later something warm and fragrant is poured down my throat. I gulp eagerly, and it is removed, again offered. In a minute I can relax, and open my eyes.

"I am lying on that golden surface. A man kneels beside me, an odd little man, sympathetic, shrewd, harmless.

"'I'm sorry I let you pass the first time,' he says. 'As you said nothing, I mistakenly assumed you were swimming for pleasure.' He offers the liquid again. 'Are you quite better? You should have accepted some person's aid long before. You are not in your best condition, I fear.'

"I say nothing, but raise myself on my elbow. Around us lies the surface of the golden globe.

"'The Center,' I have said aloud, for the little man nods.

"'Just so. Appreciate it as you will, sir. Few come so deep.'

"I look down at my left hand and grin weakly to myself. Clutched in my hand after its incredible trek is the transfer cube.

"The man detaches a weapon-shaped article from a clip at his waist. I flinch. 'Please rest now,' he says politely. 'I have work to complete, of course. Then I shall see you to your destination.' He almost curtseys, says, 'Sustenance is there beside you,' and begins walking off around the curve of the globe in awkward strides that

suggest magnetic boots. It is quite weightless here. As I recover strength I watch him at his task, and take sips from the warm flask of liquid. His tool is the gun-like object; he uses it to spray seemingly endless amounts of gold paint on surfaces which hardly need any more. Slowly he works his way over the far curve of the golden sphere, until his head bobs beneath the horizon. As soon as he has vanished, I grasp the nearest of the functional or ornamental excrescences which surround me, and begin to pull myself in the other direction.

"After a few hundred meters, the rim of a portal shows ahead of me. I reach it and push my head over, to see only blackness. Hoisting myself over the rim, I bend my head down out of the golden glare until my eyes adjust. Bit by bit the outlines of a small room can be made out; I am looking in through wall, ceiling, floor, as you will. Shadowy furniture on five sides, table, chair, viewscreen—universals. An oval opening in the far side. I shove myself across to the opening and again peer through.

"My breath catches; it is a magnificent effect. The whole sphere of space surrounds me in unwinking constellations. It is so real I stop breathing in fear of vacuum; but it is illusion. I recognize at once that the portrayal is of the actual outside view; Randar 13 swims, a cold hemisphere to my left; our sun flames weakly far below in endless depths; the patterns of the Zodiac of my youth march about me in aching distance: the Harpist, the Flatbird, the Cross, the Triple Tower, the Dreamer. I cling to the oval ring of the dimly lit opening and stare out into the starlit black. Somewhere out there is the exact center, and the seal-safe I have sought so long.

"My fingers have been feeling within the opening as I survey the interior, and now my right hand passes across a metal bar. I kneel and finger it. It is solidly fixed, and stretches out into the night; as nearly as I can judge, toward the exact center. I take a good grip on it, and prepare to push off from the opening.

"'I'm afraid,' says a mild voice, 'I must ask you to refrain . . .'

"I don't pause to consider whether the little man's tool can spray anything besides paint; instead of shoving off with my feet, I reverse vectors, lashing back with my feet from my handhold on the bar. The little man spins with a gasp as my boots connect with his arm and he is flung heavily against a wall. By the time he ricochets I am on him. He doesn't struggle, just lies looking up at me, gasping for breath. I don't want to harm him, but *nothing* is going to keep me from finishing up now I'm this close. I heave

him up—he doesn't weigh anything here—and pull him to the outer portal. I position myself in the firmest stance I can attain, grasp him by armpit and thigh, and heave him straight up with all the force I can dredge up. I fall back into the room as the little man gradually rises from me, his wistful face receding as he drifts outward from the golden globe.

"That should keep him off my back for a while.

"I bend to the bar again, panting for breath myself, and begin to haul myself out into the look of infinity. One tug after another along the bar, until I am skimming among the constellations. Pull, and pull, and pull, and. . .

"DAMNIT!

"I have found my goal by ramming into it head first. It hurts! I still haven't learned to allow for being out of my checker-suit.

"As my head spins, my stomach retches, and I prepare to die by preference, my hands are automatically aligning the transfer cube with the sealsafe cube, and transfer starts. An endless time, while the cold stars stare lidlessly in on me, and then suddenly it is done.

"It is done.

"Transfer is complete, the world-ship's sealsafe is fused, my friends out on Randar are alive and waiting, and not planning to take any chances with Golgaronok; and my mission is a complete success.

"I know all this the instant the stars go out.

"I cling there in the utter dark at the center of a world I have just turned off, and every cell in my body slumps in relief and exhaustion. It's out of my hands. The burden's off me, I've done my job, I can rest.

"I guess I'm lucky to pick the same bar to leave by that I came in on, or maybe I don't. But I'm not caring much any more. Anyway, I clamber out into the same, or a similar, outer room, and then onto the surface of the Center. The golden surface still shines in silent phosphorescence.

"I look up for the little man. He's not up there. I wander around and find him sitting a short distance away, nursing his arm tenderly. It looks like I bent it the wrong way a bit; I hadn't meant to.

"It's hard to keep from caving in, with my limbs, my head, my senses, all about to collapse, but I do what I can to look mighty and determined. 'I hoped you'd stay up there longer,' I tell him. 'I don't want to have to smash you again.'

"'No need for that,' he replies with odd cheerfulness. 'I'm not really fond of being smashed. I came down, of course, with this.' He holds up the paint squirter. 'Without a reaction tool it's very hard to get anywhere in the Center, don't you think? For instance,' and he draws back his good arm and, with a heave that lays him on his back, hurls the tool off into limbo. 'For instance, how were you planning to go back . . . up?'

"My eyes follow the tumbling little object until it vanishes in the golden perspectives of infinity. My mind follows it up. Up to the girders invisible kilometers above. Up in the beginnings of gravity, from girder to girder. Up to the elevator—which the seal-safe has now put out of operation. Up deck by deck 180,000 times, straight up out of this pit, to my checker-ship, impregnably waiting, vanishingly far above me. As my thoughts rise, my spirit and knees crumble. I don't fall, of course; just find myself floating above the surface like a corpse.

"His pleasant little face swims into my vision. 'Perhaps, sir,' he is saying as I slowly disintegrate, 'I can still help you.' Now I see two of him; how could I have taken both of him on? He smiles, and my eyes blur. There are four little men, dozens, then he explodes into sparkling shards and

VIII.

"I am being moved, lifted, arranged like a rag puppet. I am tired, tired and drained. Someone is saying brightly, 'That will do, I think. Now where to start? You must understand that it will be better to answer my questions as accurately as possible—that is surely true. We can also assume, from all indications thus far, that I am your superior. That should be sufficient to begin with. Now let us start at the beginning. Open your eyes.'

"I do, and immediately try to stand at attention before the desk, not easy in null-grav. All I know about this man sitting across from me is that he is my superior" WAIT A BLAME MOMENT "and that it is better to answer his questions as accurately" I'VE BEEN HERE BEFORE TOO "as possible. I only hope I don't fall asleep. The other looks up, a small unstriking man." BUT I KNOW HIM. THOSE EYES, THIS ROOM " 'The very first thing,' says the little man" IN THE TONGUE OF GOLGARONOK " 'is for me to congratulate you most sincerely. The journey you have just made . . .'" HE'S THE ENEMY. DON'T TELL

HIM . . . FORGET IT. IT'S TOO LATE. THIS IS MEMORY. I'VE ALREADY TOLD HIM. " 'few others could have mustered.' The smile wavers across his face again, the waver spreads to his whole face, to the room. My sight blurs liquidly for an instant, and then solidifies again. I have caught up with now . . . I think."

IX.

Cotter Oren dragged his babbling thoughts to a ragged halt, and sat numbly in a functionally universal chair in an all-too-familiar room. The Examiner was standing over him, offering a flask of refreshment. He was more pale and worn. Oren looked down at himself; he had filled out, was more rested than since he had entered Golgaronok.

"Yes," said the little man. "You're out of memory now. This," he waved his hand, "is current occurrence. Space-time date present, if you will."

Oren glared for some time in tight-lipped silence. Finally he spoke stiffly.

"You are a native of Golgaronok; you're the little man I met at the Center." He looked around him. "Where we still are. I never got out after all."

The other shrugged apologetically. "You're still in the Ship," he said. "I never said you weren't. You know, I never *lied* at all."

"Well, there was a hell of a damned lot of truth you just never got around to mentioning," Oren snapped. He rose, and strode over to the Examiner. "Can you give me," he growled down at the man, "any good reason why I shouldn't break your neck?"

Somewhat regretfully, the other shook his head. "None you'd listen to—unless you thought of it on your own." He cheered up a bit. "But I really don't think you're going to," he added, "because you asked."

"Forget it," said Oren. He moved back to the table, and slumped against it. "Damn," he said thoughtfully. There was a long silence.

"May I ask," said the Examiner, "why my neck remains unbroken?"

Oren looked glum. "I don't see much use in it, other than cheering me up a bit. I don't suppose you'd give me the chance if you couldn't stop me. And you must have already let the other Anarchs know what you found out."

"Ah, prudence," said the other. "A fine virtue. But I haven't told anyone yet, quite impossible. And I assure you I couldn't stop you," he added with incongruous glee. "So now are you going to kill me?"

Oren paused. "Thanks for the suggestion, but not right now. I've got a lot to learn from you first."

"Curiosity. Even better. But I will not tell you a thing under threat. You might as well dispose of me now . . . unless you have some other reason not to."

Oren grimaced. "Will you shut up! I'm not going to kill you anyway. I don't just go around killing people. I think that was the nastiest trick I ever got played, but—oh, just shut up. You played very well for your side; I thought you were on mine, is all. I might even like you a bit, under other circumstances."

"Affection!" the Examiner glowed. "Your reasons get better all the time. All right," he ended hastily as Oren glowered at him, "now I will shut up."

There was another lengthy pause, while Oren's thoughts clambered into tentative structures, and tumbled to separate items again.

Then the other said almost shyly, "Now I will tell you anything you wish, as it is evident you will not threaten me if I do not. What do you wish to know?"

Oren stared at him. At last he came up, inanely, with "Who are you?"

"Very good." The little man settled down to his favorite occupation of running verbiage. "I have no aural mnemonic of the sort you use, as our language is based on mental, rather than aural correlates. We evolve a separate self-denoting concept for each separate person we deal with, or sometimes for each meeting, which is mutually employed for that occasion. I have been thinking of myself for some time now, as far as my relationship with you is concerned, as Basho."

"Basho???"

"Precisely. It is, perhaps, a small joke. Your Home Galaxy the still pond, the Ship the intruding amphibian, and we are both caught up in the Ker-plop. Anyway, for you I am Basho."

"Oh . . . I meant, I also meant, *who* are you? Grand Inquisitor for the Recollectors?"

"Not at all," said Basho hastily. "You do me too much honor. No, I am a . . . a relative nobody. It is by mere chance you found me, or anyone, down here at the Center. I'm a wear-and-tear man,

and was looking for something useful and different and preferably meditative to do, and the Computer records mentioned that it was several decades since the Ship Center was refurbished. So I just came down to touch it up. So when you first dropped in on me, at first I thought you weren't anyone special either, except in as far as everyone is, of course. But when I followed you in, and the interior had changed..." his eyes shone with delight. "Were those lights... stars?"

"Images of them, I guess. That's just what they look like... outside."

"Magnificent! Anyway, I feared you'd get hurt, and you *kicked* me! That, I presume, was violence. Stars and violence in one day; it was most impressive! Naturally I became intensely curious, so I questioned you. I seem to have found some unusual answers. The Ship has indeed, in a sense, stopped; and those left behind in the Home Galaxy did manage to survive, after a fashion. And to think that I, a mere wear-and-tear man, should be the very first—pardon me, I mean from the Ship—to know of this. What an experience! Thank you."

"You're welcome," replied Oren automatically. "So you are just a chance nobody, a peasant bystander, who trapped a checker-pilot, hypnotized him, and wrung him dry. Just what can you think of me, I hate to imagine."

"That you are an exciting and very brave...er...barbarian," answered Basho frankly. "I did try to protect your integrity and confidence as best I could. For a truly courageous and capable man, you are terribly diffident and insecure, Oren. If I failed, it is just because I have never been very good at this sort of thing."

"Just go on."

"So I observed from your relation what I could of your worlds out there, and your reactions to us in the Ship. You must understand that this is a very big event. The Ship has been travelling for over two hundred generations to reach this point in space and time. And now it's here, and there you all are out there, and there will be all that data to analyse, and decisions to make, and... well, it's quite an affair."

"It will hardly be amusing," commented Oren, "if the next stage of the affair is for Randar to shoot your Ship down."

Smile. "I doubt if your great 6000-meter ships are equipped for shooting down even minor planets."

"We could—pardon me, *they* could puncture a pretty big hole in your hull, and leak your air."

"Do get the scale straight, Oren. This is a world full of air, in a .21 g. gravity-field. It wouldn't explosively decompress. It would take forever. And *nothing* you could—pardon me, Oren, *they* could do—would get beneath the Barrier. Except, of course, doubletalk."

Oren groaned.

"But I've sealed your sealsafe," he pointed out, "damped your ship's energy out. At least they did from out there, as soon as I'd primed the fuse. The Ship is crippled."

Basho tapped his chin thoughtfully. "I gather that would be devastating in your worlds," he said. "Or in the times of the Anarchs, for that matter. Oren, we do things differently now. The Ship will hardly notice, except for a couple of items kept over from the Anarchs, like the Elevators. We don't much employ your kinds of energy sources; primitive, you'd call us, perhaps. Most of our lighting is phosphorescent. Our atmosphere and subsistence is cyclical and self-sustaining, just as on your worlds. The engines, and the in-flight protective screens, will be out, but then we've stopped; they're not needed any more. A few Anarch relics, like your star-show in the Center . . . no, I can't say that's much of a problem.

"There will, of course, be some casualties," Basho added quietly. "People trapped in elevators, for example. But I should expect the fatalities to be well under a tenth of a percent of our population."

Oren winced. "Your computers?" he asked.

"Oh, they're not affected. They're not human. Oh, I see you've misunderstood. They're not mechanical either. They're life-forms. We symbled with them in the Cloud. Highly logical in their way, but certainly don't need to be plugged in. No," Basho continued, "the difficulties I anticipate do not involve any danger to the Ship . . . or Galgaronok, as you uglify it. I might rather fear for all planet-dwelling mankind in the Galaxy. Unless they also possess virtues of prudence, curiosity, and affection."

It was Oren's turn to smile. "That's a little extravagant. You have a mighty impressive ship, or world, and you've worried Randar, but don't let it go to your head."

"You mean . . . ?"

"That there is half a galaxy full of a lot of humans who'd prove a bit much for even you to threaten."

Basho nodded. He looked out the portal, up into the golden haze and distance. "What's the area of man's living space in the galaxy?"

"Are you still trying to examine me?"

"We're trading information. If you choose to trust me."

Oren nodded. "The re-expansion since the 'Tween-Times has reached over 20,000 light-years across—and must have expanded since the last border reports were current."

"Fine, but I meant effective living space. All those impressive light years are just empty wasted space. Man doesn't *use* them. They don't add to his power, rather they scatter and dilute it. Man actually lives . . . where?"

"On the surface of planets," said Oren.

"On the outer rind of inhabitable worlds?"

"Of course."

"How many planets, roughly?"

"Incorporated—call it 64,000. I've heard that quoted."

"Average size," pressed Basho.

"Tends to be smaller planets, standard gravity. Say 8 to 15 thousand kilometer diameter."

"Say 12,000," said Basho. "Area of a spherical surface?"

" $4\pi r^2$ square."

"So?"

Oren groaned. "Surface of a planet 6000 kiloms radius is $88/7$ times 36 million is . . . about 450 million square kiloms. Times 64,000 planets is roughly . . . 3 times 10 to the 13th square kilometers."

"All inhabitable?"

"Well, no. Lots of it ocean, polar caps, deserts, just not used."

Basho said, "Let the figure you quoted stand. Now population."

Oren calculated. "I've heard of planets like Dreyk with 15 billions; but most inhabited planets are under a billion. Taking two or three billion as an average . . ."

"Take three billion."

"Then 3 times 10 to the 9th, times 64,000 planets equals a total human population for the galaxy of about 1.9 times 10 to the 14th: 190,000,000,000,000."

"Living on the order of light years away from one another, as well," observed Basho. "And set against these vast forces of planetary humanity is one small world. What is the formula for the volume of a sphere?"

" $4/3\pi r^3$," said Oren, and straightened abruptly. "Wait, is that your point? The Ship is populated in three dimensions. With 6000 kiloms radius, its volume is $88/21$ times 216 times 10 to the 9th cubic kiloms . . . just under 10 to the 12th. And then . . . yes, the Ship is constructed in shells with about 35 meters vertical

space between, making about 30 to the kilometer. Which come out to a total living space in the Ship of . . . about 3 times 10 to the 13th . . . " He stopped in confusion. "I made a mistake somewhere. That's the figure for the planets."

"You made no mistake. Finish the task. Possible population of the Ship?"

"At the same population density, the same population . . . 1.9 times 10 to the 14th . . ." Oren was in near panic, but switched to laughter. "Oh, no. That's utter nonsense. I don't know how you did it, but for a minute you had me worried."

"What's the difficulty?"

"I'm not sure, but you can't tell me there are a hundred-ninety *trillion* people crammed into this spaceship."

"Not crammed," said Basho. "Living quite comfortably. Remember, we left room for oceans, ice caps, deserts, and free space. It is true. Didn't you yourself drop past sphere after sphere, all inhabited, each one a surface functionally equivalent to a planet? In fact, you dropped through 180,000 spheres on your way to the center, each a slightly smaller planet." He paused, then added, "When 'Golgaronok' arrived, the human population and living space in the Galaxy doubled."

Oren sat down. What else was there to do?

"Look, Oren," said Basho at last, "You said that ships from only a few thousand light years off break down, the equipment begins to erode, the atmosphere to foul, the language to change, the crew to mutate. Now you enter a ship which, after hundreds of millenia, has clean air, functioning apparatus, impeccable Anarchical language, genetically stable inhabitants. Isn't it clear at once that this ship has never broken down, never severed its link with the day of departure? It went to the Magellanics, did what it went for, and has now returned. We have retained the skills of the Anarchate, and kept harmony among trillions for all these ages. We are *more* viable than a planet, a system, or all your systems. We do not have to justify our existence. You perhaps must justify yours."

Oren was silent. The little man went on, almost pleadingly.

"Oren, we have been progressing without a break for three hundred thousand years while your immediate ancestors were plunging into the abyss of whatever horror you call the 'Tween-Times, from which you're just now clambering out. A small sprinkling of isolated humanity, on thousands of segregated worlds, barely recovered from millenia of degeneration and ig-

norance, without clear knowledge of your great past, which we still hold for you—completely unaware that the true and vital history of humanity has been evolving elsewhere—here, in the Ship." He looked at Oren. "The Ship has come to take you home again."

There was a long silence. Finally Oren looked at Basho. "You said *only* a tenth of a percent of your people would die through the power loss," he said accusingly. "That's nineteen billion people!"

"That is the order of magnitude," admitted Basho.

Oren kneaded his forehead. "Then I've got to get out fast," he said. "I can't reverse the sealsafe from in here. I've got to get them to release it from Randar."

"Do you think," asked Basho, "they are likely to listen to you on the matter?"

Oren looked grim. "Get me to my checker-suit," he said, "and see if they can stop me. I don't have to take over the whole system to get that power restored, just one planet at worst."

Basho sighed deeply. "I was hoping you'd feel that way," he smiled suddenly, "but I couldn't prompt you."

"Can I get out quickly?"

"It will be an interesting challenge. I think, together, we can. There are various alternatives. We should start at once, if you are ready."

"I'm ready," said Oren.

"It will take a great deal of care and patience," said Basho gently, "to prevent lasting damage to your people's feelings of confidence and adequacy. Your cultures are built on deep illusions of superiority which the Ship will destroy. We will have to be sure to replace better foundations rapidly. It is a fine challenge."

The little man stared far up into the golden distances, his voice a musing murmur of sound. "I cannot, of course, anticipate the decision of the Ship, but I shouldn't be surprised if we take Randar in. After all, as humans, you deserve what we can give. An additional shell or two thrown up over the outermost level, perhaps, would easily include in the Randarian population. Then I imagine we might possibly visit the other inhabited human systems. That would give an external course of action in place of the Return which has now ended, and shouldn't take much longer than that has. We will eventually be able to bring them all in, and reintegrate them into the mainstream of humanity."

"My friend Basho, you are rather arrogant," remarked Oren.

"We are," agreed the other, "quite arrogant. Shall we go?"

Dear Mr. Scithers:

So much is said about overworked themes in SF literature, yet little has been written about equally overworked themes in SF *illustration*. The Kelly Freas article in your July/August issue prompted me to mention at least two such themes I have been seeing in your magazine.

One: the 'floating heads in space'. Frankly, I was amazed to see it crop up twice in your May/June issue, and then *again* in the July/August issue. The latter I have to take extreme exception to. How did the "Dance Band on the Titanic" illustration ever get published? I agonized over every excessive line, over every slip of the pen, knowing all the mistakes because (at one time or another) I've made them myself. You need to have the sense, though, to throw out something past saving and start over. This, unfortunately, the illustrator failed to do.

A second hackneyed compositional technique (popular everywhere in the '60s and now, still, with SF, in the '70s) concerns 'montages'. I consider the placing of various story elements together in a balanced, conglomerate arrangement as an 'easy way out', sort of 'quantity for want of quality'. The two Schomburg illustrations in the July/August issue are prime examples. The most effective illustrations (I think) are those that can stand on their own as a simple, complete, economical statement. 'Economy' is the key word here. The famous illustrators of the past: Arthur Rackam, Howard Pyle, Maxfield Parrish, and N.C. Wyeth, were masters of economy, of the illustrative gestalt. Their images spoke for themselves, simply yet powerfully. Virgil Finlay realized the concept, as do Frank Frazetta, Roger Dean, and Jack Gaughan, which is one reason, surely, why they are recognised masters of the field.

When the illustration needs excessive images to make sense (as in the montages), I think its whole effectiveness is lost. Economy in form ("Singularity's" illustration in the May/June issue is an excellent example) is extremely important. Economy of line (compare the use of line in the "Titanic" illustration with that of "Wolf Tracks" in the May/June issue) is also important. *Most* important, however, is the idea that the illustration be an experience on its own terms, a wellspring of interest, of questions, of a sense of wonder, *all by itself*. When the illustration needs the story to

make sense, I think it fails.

Your magazine is excellent, in part, because the stories are excellent: well written, varied, and well presented. Please try to equal the quality of your illustrations with that of your stories. The stories deserve only the best, and there's no reason not to give it to them. Variation is important, to be sure, and you have that. However, make the variation that of *style* instead of *quality*. I don't think your art-editorial policy can have one foot in the '50s and hope to have the other in the '70s. At least not at the same time.

Sincerely,

Keith Minnion
Coronado CA

Thank you for the constructive criticism. I have no artistic talent whatever, but perhaps George will add a word here.

—Isaac Asimov

One of the things we at least try to be careful about, in our illustrations, is not to give the story away too soon. Since—often—there's no one scene in a story that sums up the whole thing, we tend—perhaps too often—to use the montage or the portrait kind of interior illustration. But then—how would you illustrate your story, "Ghosts"?

—George H. Scithers

Sir:

Whatever others may do, please retain SCIENCE/FICTION for this magazine. Note, however, that I have added an oblique stroke between the two words. I do so for a specific reason.

A story is a thing. Science is neither a thing nor an adjective. It is method, pure and simple. Specifically, it is method rigorously tailored to assure maximum integrity in developing a line of thought. If an imaginative idea is developed into a story, that story is fiction. If the idea is developed with integrity from basic postulates, the story deserves to be co-labeled SCIENCE no matter how far out the postulates may be.

In recent years, too many writers have set forces in motion and then described events impossible in the presence of those forces. Or have started with action, then tossed in un-connected postulates as the action proceeded. Implied technology is not science, it is a postulate. Only integrity of development deserves the term,

and it has become increasingly hard to find in recent years.

All issues of *Isaac Asimov's SCIENCE/FICTION Magazine* have earned a very high score on the dual scale of story and scientific integrity-of-development. It is doubly pleasing when it reflects new writers as well as old. And triply so when it expands beyond traditional limits as to what is "proper S/F."

In that regard, the requirement remains that at least one postulate, one "What if . . .", shall jump beyond recognized knowledge of the universe. How great the jump, or in what area, does not matter. It qualifies as SCIENCE if the development is rigorous, and as FICTION if the result is a damn good story.

I don't know whether the stories presented to date represent editorial instincts that exactly match our tastes, or SCIENCE/FICTION selected consciously according to the criteria I have described.

Whichever, please keep it up.

R. & J. Gordon
White Rock, British Columbia

Both George and I look for the ideal of a writer who is equally at home in the skills of writing and in scientific background.

—Isaac Asimov

Dear Mr. Scithers,

Good as the other issues are, I thought May-June 1978 was tops. After devouring the first issue at one indigestible gulp I refined my techniques considerably. First the editorial, next the books and letters, and maybe the puzzle if I feel unusually bright; then all the introductions to the stories, admiring the artwork as I go. Finished with the appetizers, I settle back and dig into the main courses, coming out at the end stuffed and satisfied. Sometimes the dessert seems to be in the middle, or the salad at the end, but it's still gourmet fare, for the most part. But this time, in the May-June issue, the menu was cleverly arranged to suit my appetite—in ascending order from start to finish. Following the very tasty soup, each dish was more succulent than the one before, right on up to "Singularity"—what a dessert! I used bold black felt pen to circle the name on the cover to remind myself to watch for more by Mildred Downey Broxon.

Sincerely,

Beverley J. Wood
Ridgecrest CA

Dear Mr. Scithers

May-June '78 was probably your best issue so far. Looking over the table of contents a week after reading the magazine is enlightening. The weakest story for me was the Effinger. Although I don't consciously recall ever having met the premise of the story previously, I couldn't escape the feeling that it was a cliché. The story I remember with the most pleasure was "Lipidleggin'," which takes current trends to their logical conclusion in a magnificently believable manner. It's nice to see a story which features ordinary people trying to get by. Let's see more from Wilson.

As for the rest of the magazine. . . The cover was a stroke of genius. Its predominant whiteness made it stand out from the other titles on the newstand, screaming "Buy me. Buy me!" Ike was charming as usual in his editorial, but Brown's book column was disappointingly short this time. I like the idea of doing very short minireviews, but that type of column demands that a lot of books be considered. I remember seeing this type of review often in Brown's *Locus*, when I subscribed to that magazine a number of years ago. Are the reviews in your magazine taken from *Locus*? [No. GHS] Gardner's puzzle was a delight, and I hope you can continue this feature. The Feghootish thing on page 37 was welcome, and more of the same would not be unwelcome.

I bought the magazine at Wolfe's bookstore in Sudbury, Ontario, on May 5. It arrived there the day before.

I wish you continued success and hope to see the magazine go monthly as soon as possible. It has the potential of becoming *the* number-one SF magazine, especially if it keeps up its friendly informal atmosphere.

Yours truly,

Mario Milosevic
Sudbury, Ontario

Friendly informality is my thing, as any young woman will tell you, so we'll continue so, you may be sure.

—Isaac Asimov

Dear Doctor and Gentle Editor:

It has occurred to me that although much has been said, pro and con, about the use of The Good Doctor's name on the cover, no

one has considered the most important aspect of the matter. All other magazines can survive as long as the readers are there and will pay. Even *Astounding/Analog* was able to outlive John Campbell, but *IA'sfm* can last at most one memorial issue past the demise—sometime in the twenty-second century—of the Good Doctor. Forgive me for mentioning it, but as Niven's "Cautionary Tales" in issue #8 should bring forcibly home, all are—even the Good Doctor, alas—mortal. I trust that plans for this funerary issue are already well under way.

David E. Siegel
Unadilla NY

Actually, I thought of this and raised the point when the magazine was first proposed. Joel simply ordered me to live forever. Obviously, if through some oversight, I don't, I'll be one person with no say at all in what happens afterward.

—Isaac Asimov

Dear George:

I love it! I must admit that it was the Asimov name that first attracted me, but I'd read *IA'sfm* now, given the same edit direction, even if it was named *Dave Brown's SFM*. Keep it coming, please.

Maybe you could do something else for us? When I first read "The Stainless Steel Rat" it seemed to scream to be made into a movie or mini-series with James Coburn in the lead. After seeing him in *The Dain Curse*, I'm even more convinced. Can the Good Doctor be talked into pushing such a project? Or, at the least, planting the bug in the ear of some equally influential person? I'd bet that it'd be a big hit.

Again, thanks for a good mix of entertainment, thought-food, and...

Paul Adams
Denver CO

My influence in Hollywood is nil, but I hope you noticed there was a Stainless Steel Rat story in Asimov's SF Adventure Magazine—which I'm going to have to call "The Other Magazine".

—Isaac Asimov

§ § §

Dear Mr. Scithers:

After receiving this third and, in my opinion, best issue of *IA'sfm* (July-August 1978), I am motivated to respond to your request for feedback.

As to stories: "One Rejection Too Many" was the kicker of the issue—my ho-hum introductory assessment culminating in absolute delight; "Dance Band on the Titanic," "But Do They Ride Dolphins?" and "Suicide of Man" took top spots; "On the Way" and "When We Come Down" were also good; "Public Relations" was good fun, "Fragger's Bottom Line... Line... Line..." was a good story with an overworked ending, and "Message to Myself" indicates good potential from Ms. Paxson. Then there were "Cautionary Tales" and "Horseless Carriage"...

Having been firmly addicted to SF for some 20 years now, I somehow managed never to acquire a taste for any of the periodicals. Until now. *IA'sfm* is a superlative compendium of refreshing new authors and consistently good bulwarks of the genre.

I am also caught in an odd dichotomy. Admittedly, I tried the magazine originally on the basis of Dr. Asimov's name, being an ardent reader of his. However, the title *Isaac Asimov's Science Fiction Magazine*, is quite the most stodgy, formal-sounding appellation conceivable. "Startling Stories," or "Zap!" or "Fantastic Fiction" would have been much more dynamic. (Of course, I would never have read a single issue in that case. It's all most confusing.)

Looking forward to a long future enjoyment of *IA'sfm*, I remain
Sincerely yours,

The George
Alexandria VA

Think of my own difficulty. What do I call it? I have to refer to it as "the magazine."

—Isaac Asimov

Dear Mr. Scithers,

As a teacher of English who has been too long away from the comforts of science fiction, I wish to thank you for the relaxation your magazine has brought me since its inception. I had forgotten, or nearly so, the therapeutic value—and the sheer fun—of a mainstream of fiction that has received all-too-short a shrift in my pedantic field.

Again, thank you for what I can only consider to be a most pleasant reawakening.

Sincerely,

William H. Zipfel
Defiance OH

Delightful! To anyone who grew up in science fiction before it became academically respectable (as I did, for instance), English teachers were The Enemy. Welcome to the fold.

—Isaac Asimov

Dear Sir;

Several science-fiction authors over the last decade have set some of their stories on planets described in minute detail (e.g. Ursula K. LeGuin's *Rocannon's World* and *The Left Hand of Darkness*, and Larry Niven's *Protector* and *The Mote in God's Eye*). The suspicion has grown upon me that they went to some trouble to invent these planets.

Would you or your readers happen to know: a) whether these authors did the paperwork themselves, or had it done for them; b) where they got their astrophysical information; c) who is doing this kind of work at present, and what procedures they are using; and d) whether, or where, any articles on the subject have appeared up to the present time?

I am putting together materials for a paper or article on this subject. Perhaps the best name for it is "predictive planetology." the use of mathematical tools to create planets on paper. At present I am limited to several science-fiction novels and a Rand Corporation study published in 1964 by Stephen H. Dole; *Habitable Planets for Man*.

If you or your readers can provide any of this information, please write to:

Garth Spencer
1296 Richardson St.,
Victoria, B.C.
V8V 3E1
Canada

Yours,

Garth Spencer
Victoria, British Columbia

I know for a fact that Hal Clement and Poul Anderson carefully design their planets. Your project seems an interesting one.

—Isaac Asimov

Send your letters to the editor here at Box 13116, Philadelphia PA 19101. (Subscription orders, subscription changes of address, and the like go to an entirely different address: Box 1855 GPO, New York, NY 10001. The sub department does not handle letters to the editor as well as the editor does, but then, the editor is not as good at handling subscriptions as the subscription department is.) We're especially interested in what about the magazine you like best, second best, and so on down to whatever (if anything) you actively disliked about it. Although we print few of your comments on newsstand distribution, such comments are of great interest to the newsstand circulation director and are very necessary for us to adjust our distribution system to match the demand for the magazine, especially with our recent shift to a monthly publication schedule.

—George H. Scithers

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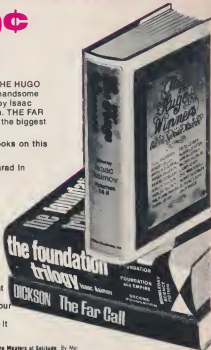
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